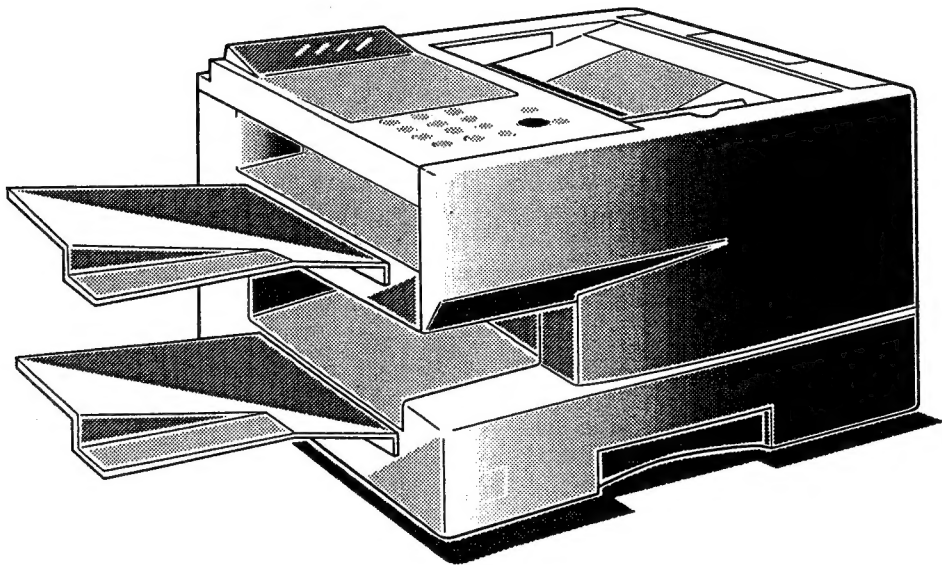


ORDER NO. MGCS970102C0

# Service Manual

Facsimile

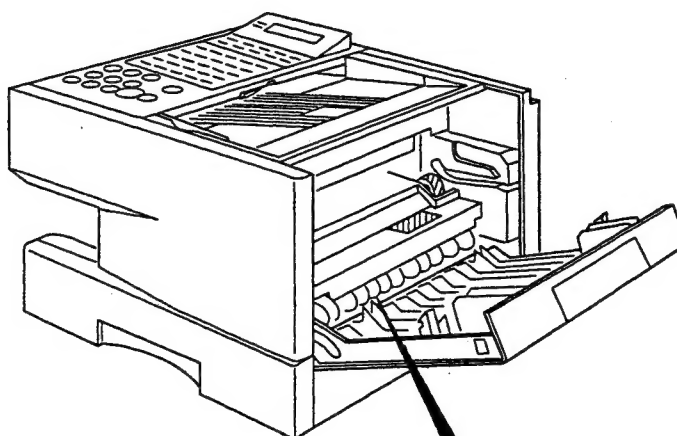
**UF-770/880**  
**UF-A8770/A8880**



**Panasonic®**

# ! WARNING

This service literature is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service literature by anyone else could result in serious injury or death.



<b>VARNING :</b> OSYNLIG LASER- STRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRRAR ÄR URKOPPLADE. STRÅLEN ÄR FARLIG.	<b>VARO!</b> NÄKYMÄTÖN AVATTAESSA JA SUOJALUKITUS OHTETTAESSA OLET ALITINA LASERSÄTELE, YLLÄ ÄLÄ KATSO SATEESSEN.	<b>VARNING :</b> OSYNLIG LASER- STRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRRAR ÄR URKOPPLAD. BETRÄKTA EJ STRÅLEN.	<b>ADVARSEL :</b> USYNLIG LASER- STRÅLING VED ÅBNING NÄR SIKKERHEDS- BRYDERE ER UDE AF FUNKTION. UNDGÅ UDSÆTTELSE FOR STRÅLING.	<b>ADVARSEL :</b> USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNDGÅ EKSPONERING FOR STRÅLEN.
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( For Sweden, Finland, Norway, Denmark )

<b>CAUTION</b> -Invisible laser radiation when open and interlocks defeated. AVOID EXPOSURE TO BEAM.	<b>VORSICHT</b> -Unsichtbare Laserstrahlung, wenn Abdeckung geöffnet und Sicherheitsverriegelung überbrückt. NICHT DEM STRAHL AUSSETZEN.	<b>ATTENTION</b> -Rayonnement laser invisible dangereux en cas d'ouverture et lorsque la sécurité est neutralisée. EXPOSITION DANGEREUSE AU FAISCEAU.	<b>PELIGRO</b> -Cuando se abre y se inválida el bloqueo, se producen radiaciones invisibles de láser. EVÍTESE LA EXPOSICIÓN DIRECTA A TALES RAYOS.
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( For other countries )

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# **Chapter 1**

## **General Description**

## **1.1 Overview**

This section covers the features and specifications of the plain paper facsimile transceiver "Panasonic UF-770/880". This fax machine can transmit and receive on the Public Switched Telephone Network (PSTN) in modes conforming to ITU-T / CCITT Group 3 recommendations.

## **1.2 General Features and Functions**

### **(1) Laser Printing**

Clear picture quality is obtained by employing a Laser printing method on plain paper. The machine can print onto A4, Letter or Legal size paper.

### **(2) Quick Scan**

Quick Scan speeds the fax process by scanning and storing documents into memory at a rate of approximately 3 seconds per page (letter/A4 paper size).

### **(3) Easy Maintenance**

This laser printing mechanism only requires changing the toner cartridge, housing the drum, developer and toner.

### **(4) Panasonic Super Smoothing**

The machine incorporates a new sophisticated image processing technology to enhance print quality of ordinary received fax images by smoothing the curved edges of the character.

### **(5) B4 size Scanning**

B4 size is the maximum document width that can be scanned and transmitted.

(Note: 11 inches is the maximum document width that can be loaded into the ADF, however only B4 width will be scanned.

### **(6) Automatic Document Feeder**

An Automatic Document Feeder feeds originals from the document tray automatically, starting with the bottom page.

Capacity: 50 documents of average thickness and of the same size.

	Max. Document Size	Document Thickness
Up to 20 pages	8.5 × 14 in (Legal)	0.06 mm to 0.12 mm
Up to 50 pages	A4 / Letter Size	0.12 mm

### **(7) Speedy Transmission**

The use of MMR Coding with ECM achieves faster transmissions. Short Protocol reduces hand-shake time by shortening Phase B and D.

### **(8) Error Correction Mode (ECM)**

An Error Correction Mode, which conforms to ITU-T / CCITT Recommendations, allows error-free data transmission. ECM with MMR Coding also conforms to ITU-T / CCITT Recommendations.

### **(9) Automatic Dialing Function**

Up to 140 stations can be easily dialed by One-Touch Dialing or Abbreviated Dialing Function. Any other stations can be dialed directly from the keypad by entering the full telephone number (up to 32 stations).

### **(10) Memory Transmission**

The contents of a document can be stored into the document memory first, then transmitted from memory. Operator attendance until the transmission ends is not necessary.

### **(11) Multi-station Transmission**

Using the document memory, the document can be transmitted to multiple destinations.

**(12) Multifile Transmission**

It is possible to store multiple documents, each of which could be transmitted to different destinations, into the document memory. Then the unit will transmit them sequentially (Max. number of files : 30 files).

**(13) Deferred Communication**

The 30 built-in 24-hour timers allow the operator to set deferred transmissions or deferred polling. Using document memory, documents can also be transmitted to multiple stations.

**(14) Substitute Reception**

The contents of a document will be received into the document memory if the recording paper or toner runs out, or a recording paper jam occurs during reception. The stored documents can be printed after replacing the recording paper or toner cartridge or correcting a paper jam.

**(15) Dual Operation**

Dual Access operations can store documents and their destinations even during reception or memory transmission. It can also receive during document storage.

**(16) Halftone**

For transmission, this function ensures high quality reproduction of gray-shaded or photographic documents. This machine uses 64 levels of error diffusion to create halftones, with Quality and Fast mode.

**(17) Copy Function**

The Copy function allows the machine to be used as a copier. Using the document memory, up to 99 copies can be made of a single original.

**(18) 100 Transaction Journal**

The 100 Transaction Journal provides transaction information — number of pages transmitted or received, start date and time, communication results, identification, etc. It is automatically printed after every 100 transactions, or it can be printed manually at anytime.

**(19) Latest Individual Transmission Journal**

The latest Individual Transmission Journal provides information on the last transmission — number of pages transmitted, start date and time, communication results, identification, etc. It can be printed manually at anytime after communications.

**(20) Communication Journal**

A communication journal is a result report of a communication which can be printed automatically after communication is completed. Printout conditions can be selected for each communication to 1) not print, 2) always print or 3) print when communication has failed.

**(21) Multi-purpose LCD Display**

The 20 × 2 alphanumeric LCD display shows operation mode, date and time, remote ID number, and pages transmitted or received. In case of an error, the LCD display shows an information code and error message indicating the exact cause of trouble.

**(22) Verification Stamp**

The Verification Stamp is automatically stamped on the original document when the document is transmitted or stored in memory successfully. The "⊗" mark appears at the bottom of each page.

**(23) Password Transmission**

A password transmitted from the other party is checked to prevent the transmission of documents to an unauthorized station.

**(24) Password Reception**

A password transmitted from the other party is checked to prevent the reception of documents by an unauthorized station. The reception of a direct mail, etc., is preventable.

**(25) Fax Access Code**

The Fax Access Code can be registered into the machine to prevent operation by an unauthorized user.

**(26) Selective Reception**

To prevent unwanted faxes from being received, the machine compares the ID Number of the transmitting machine with the telephone number stored in the built-in automatic telephone dialer.

**(27) Receive to Memory**

Users can set the unit to store incoming documents into its available memory. Later, using a 4-digit password, stored documents can be printed when the user is present. This function helps ensure that important documents are not read or lost while they are sitting unattended in the fax tray.

**(28) Relay Transmission Request**

By setting the machine as an initial sending station, the unit is capable of setting up a relay request to a central hub machine with a network password. Documents can then be automatically transmitted to the end receiving stations. This model is designed to operate as an initial sending station.

**(29) Confidential Transmission and Polling**

The documents can be transmitted to a predetermined destination with a 4-digit confidential code utilizing the Confidential Mailbox function. Stored messages in the Confidential Mailbox machine can be polled by the receiver at the destination terminal.

**(30) Confidential Mailbox**

When the received message is stored into the memory with a 4-digit confidential code, the message can be printed on recording paper or polled by a remote station. A maximum of 10 mailboxes can be used. A remote confirmation report such as Confidential Memory Report and/or Confidential XMT Report is not transmitted to the source station and/or the remote station after Confidential Mailbox reception or polling transmission.

**(31) Remote Diagnostic Function**

The remote Diagnostic Function can be used to diagnose the unit remotely over the PSTN or equivalent. A new host system is required for high speed remote diagnostics to be available.

**(32) Check and Call Function**

This feature enables the Authorized Servicing Dealers to manage and improve the Fax machine maintenance to their customers by alerting them of equipment problems. It also can be used as a Supply Sales Tool by alerting the Dealer that the unit is running Low on Toner. The function overview is as follows:

- 1) The machine's printer error information is stored in the Printer Report.
- 2) The printer report can be manually printed when required.
- 3) When printer errors occur, the unit can automatically transmit the Service Alert Report to the pre-registered telephone number.
- 4) When the unit detects Low Toner, it can automatically transmit the Maintenance Alert Report to the pre-registered telephone number.

**(33) Multiple LOGO**

This operation allows the user to select one of the 25 preset LOGOs before a Transmission. The selected LOGO is printed on the Header of each page sent, Cover Sheet, COMM. Journal and Individual Journal.

## (34) Department Code

This operation requires the user to input a preset 4-digit Department Code before transmission. The Department Name of the selected Department Code is printed on the Header of each page sent, Cover Sheet, COMM. Journal and Individual Journal. When the Department Code is set, the Transaction Journal will be sorted by the Department Code number when it is printed.

If you wish to prevent unauthorized persons from setting, changing or erasing Department Code settings, you should set the Fax Access Code to restrict these settings.

**1.3 General Specifications**

## (1) Communication Facility

Public Switched Telephone Network (PSTN)

## (2) Line Coupling

Direct Coupling

## (3) Input Level

-5 to -43 dbm

## (4) Output Level

0 to -15 dbm

## (5) Control Procedure

ITU-T / CCITT Rec.T.30

MGCS proprietary short protocol

## (6) Modem Speed

V.34 : 33600~2400 bps @2400 step (QAM with TCM) UF-880 only

V.17 : 14400, 12000, TC9600 TC7200 bps (QAM with TCM)

V.33 : 14400, 12000 bps (QAM with TCM)

V.29 : 9600, 7200 bps (QAM)

V.27ter : 4800, 2400 bps (PhM)

## (7) Coding Scheme

MH (Modified Huffman)

MR (Modified Read)

MMR (Modified Modified Read)

JBIG (Joint Bi-level Experts Group) UF-880 only

## (8) Communication Resolution

<Transmission>

Standard : 203 dpi × 98 lpi (8 pels/mm × 3.85 lines/mm)

Fine : 203 dpi × 196 lpi (8 pels/mm × 7.7 lines/mm)

Super Fine : 203 dpi × 391 lpi (8 pels/mm × 15.4 lines/mm)

<Reception>

Standard : 203 dpi × 98 lpi (8 pels/mm × 3.85 lines/mm)

Fine : 203 dpi × 196 lpi (8 pels/mm × 7.7 lines/mm)

## (9) Halftone

64 Levels, Error Diffusion

## (10) Error Correction Mode

ITU-T / CCITT Rec. T.30 ECM (MMR)



**(11) Image Memory Capacity**

- Standard (Base) : 70 pages
- Option (Additional) : 85 pages (1M byte : UE-410006)  
165 pages (2M byte : UE-410007)  
335 pages (4M byte : UE-410008)  
670 pages (8M byte : UE-410029)

(using ITU-T Image No. 1 in Standard Resolution)

**(12) Transmission Speed**

UF-770 : 6 seconds using ITU-T Image No. 1 in Standard Resolution, memory to memory communication.

UF-880 : 3 seconds using ITU-T Image No. 1 in Standard Resolution, memory to memory communication.

**(13) Automatic Dialing**

- Dialing Signal : 10PPS/20PPS/DTMF
- Dialing Method
- One-Touch Dialing : Up to 40 keys (including 8 programmable keys)
- Abbreviated Dialing : Up to 100 stations
- Manual Number Dialing : Up to 32 stations
- (Direct Dialing) : (Up to 36 digits including pauses)
- Programmable Dialing : Up to 8 programmable keys
- Combination Dialing : Combination of One-Touch, Abbreviated and Manual Number Dialing
- Multi-Station Dialing : Multi-Station Transmission/Polling  
Up to 172 stations  
Deferred Multi-Station Transmission/Polling  
Up to 172 stations

Registration Memory Capacity in One-Touch and Abbreviated Dialing

- Number of Stations : Up to 140 stations
- Telephone number : Up to 36 digits (Including pauses and spaces)  
of each station
- Station name : Up to 15 characters  
for each station

Redialing

- Automatic : Up to 15 times with 0 to 15 minute intervals
- Manual : By pressing the Redial button (last number dialed)

**(14) Print Reduction Ratio**

- A4 / Letter : 70 to 100% in 1% steps
- Legal : 85 to 100% in 1% steps (according to the received document length)

**(15) Rechargeable Battery Backup Period**

- S-RAM Memory (Tel No., ID, logo, etc.) : Up to 10 days
- D-RAM Memory (Document Memory) : Up to 1 hour (Up to 72 hours : UE-403125)

Note : The backup period listed are with the battery fully charged.

## 1.4 Scanner Specifications

### (1) Document Dimensions

Width	:	Minimum	148 mm
		Maximum	280 mm
Length	:	Minimum	128 mm
		Maximum	356 mm

Note : With operator's assistance, a maximum of 2,000 mm length document can be sent (one page at a time)

### (2) Automatic Document Feeder

The Automatic Document Feeder feeds the originals from the document tray automatically, starting with the bottom page.

Paper thickness	:	Single-page	: 0.06 to 0.15 mm
		Multi-page	: 0.06 to 0.12 mm
Capacity	:	20 documents	: Up to Legal Size (20 lb)
	:	50 documents	: A4 / Letter Size (20 lb)

### (3) Scanning Method

Horizontal	:	Sheet Feeding with CCD type image sensor.
Vertical	:	Stepper Motor feeding

### (4) Effective Scanning Width

9.9 in (252 mm)

### (5) Scanning Resolution

Standard	:	8 pels/mm × 3.85 line/mm	(203 dpi × 98 lpi)
Fine	:	8 pels/mm × 7.7 line/mm	(203 dpi × 196 lpi)
Super Fine	:	8 pels/mm × 15.4 line/mm	(203 dpi × 391 lpi)

### (6) Contrast Selection

3 steps (Normal / Lighter / Darker)

## 1.5 Printer Specifications

### (1) Recording Paper Size (W× L)

Letter	:	216 mm × 279 mm
Legal	:	216 mm × 356 mm
A4	:	210 mm × 297 mm

### (2) Recommended Recording Paper Weight

60 to 90 g/m<sup>2</sup>

### (3) Paper Capacity with standard cassette

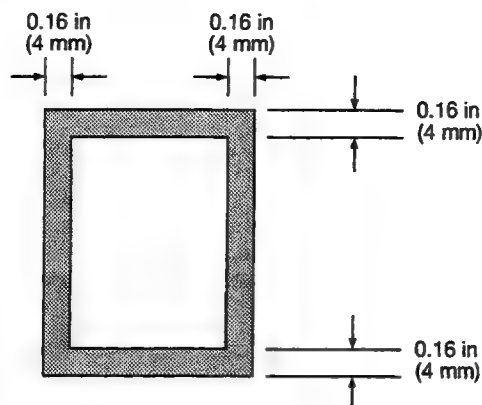
250 sheets (0.01 mm/sheet)

### (4) Printing Resolution

406.4 dpi × 391.16 dpi

### (5) Non Printable Margin

The shaded areas represent the unprintable area on the recording paper.



(6) Printing Speed

10 ppm (6 seconds/page)

(7) Fuser Warm Up Time

Within 70 seconds after turning the power on. [Room Temperature : 20 to 35°C]

## 1.6 Power

(1) Power Requirement

90~138 VAC, 47~63Hz, Single Phase : 100V version  
180~264 VAC, 47~63 Hz, Single Phase : 200V version

(2) Power Consumption

Max	:	Approx. 460 W
Reception	:	Approx. 460 W
Copy	:	Approx. 460 W
Transmission	:	Approx. 20 W
Standby (Power Save : On)	:	UF-770: Approx. 8 W/H (100V version), 11 W/H (200V version)
	:	UF-880: Approx. 10 W/H (100V version), 11 W/H (200V version)
Standby (Power Save : Off)	:	Approx. 84 W/H

[Room temperature : 25°C]

## 1.7 Environment

(1) Operating Environment

Temperature	:	10 to 35°C
Relative Humidity	:	15 to 70% RH
Tilt	:	The unit must be kept on an even, level surface.

(2) Storage Environment (Carton Box Condition)

Temperature	:	-20 to 40°C
Relative Humidity	:	5 to 85% RH

Note: The machine should be stored upright.

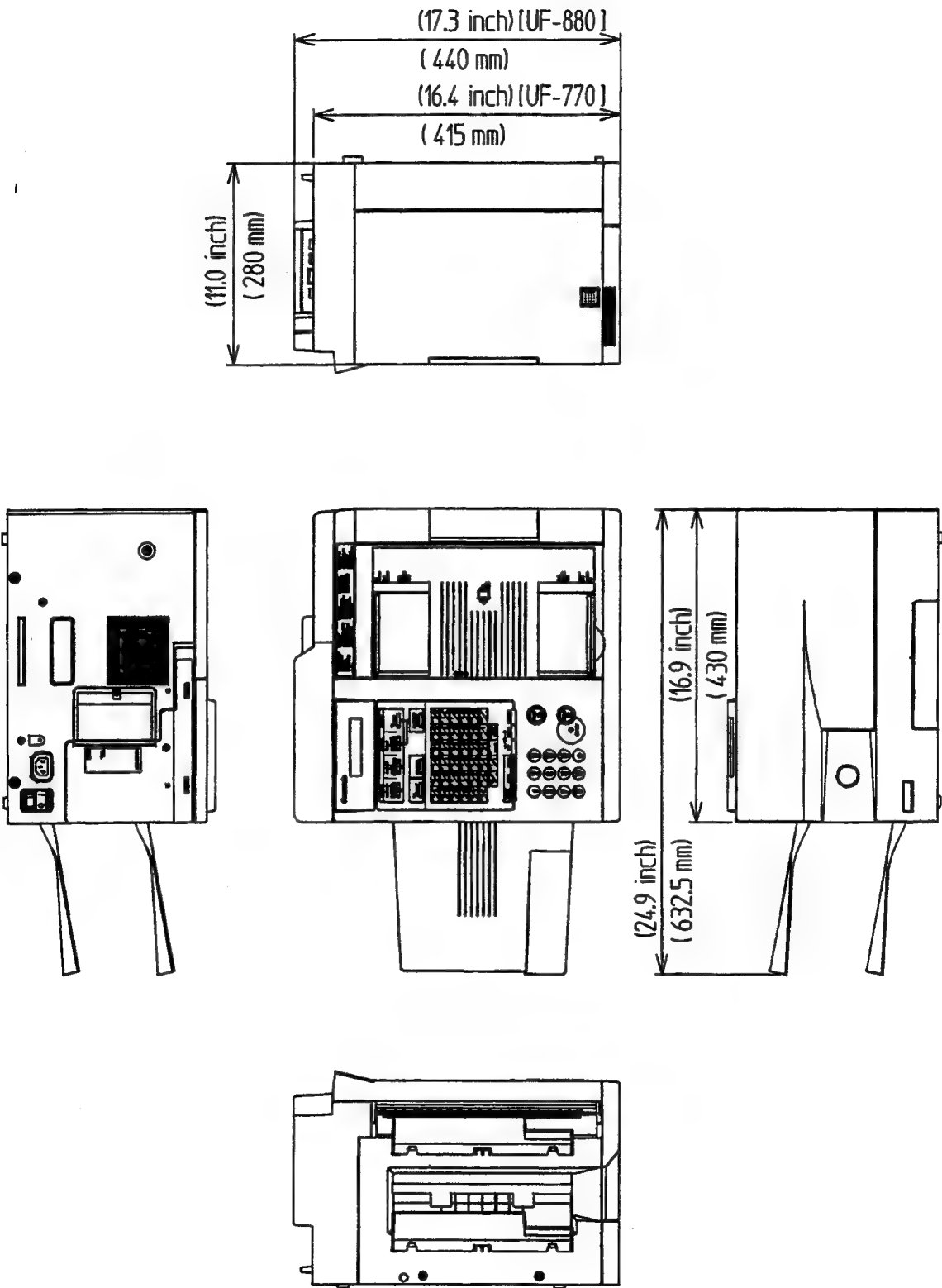
(3) Transportation Environment (Max. 480 hours, Carton Box Condition)

Temperature	:	-20 to 50°C
Relative Humidity	:	15 to 85% RH

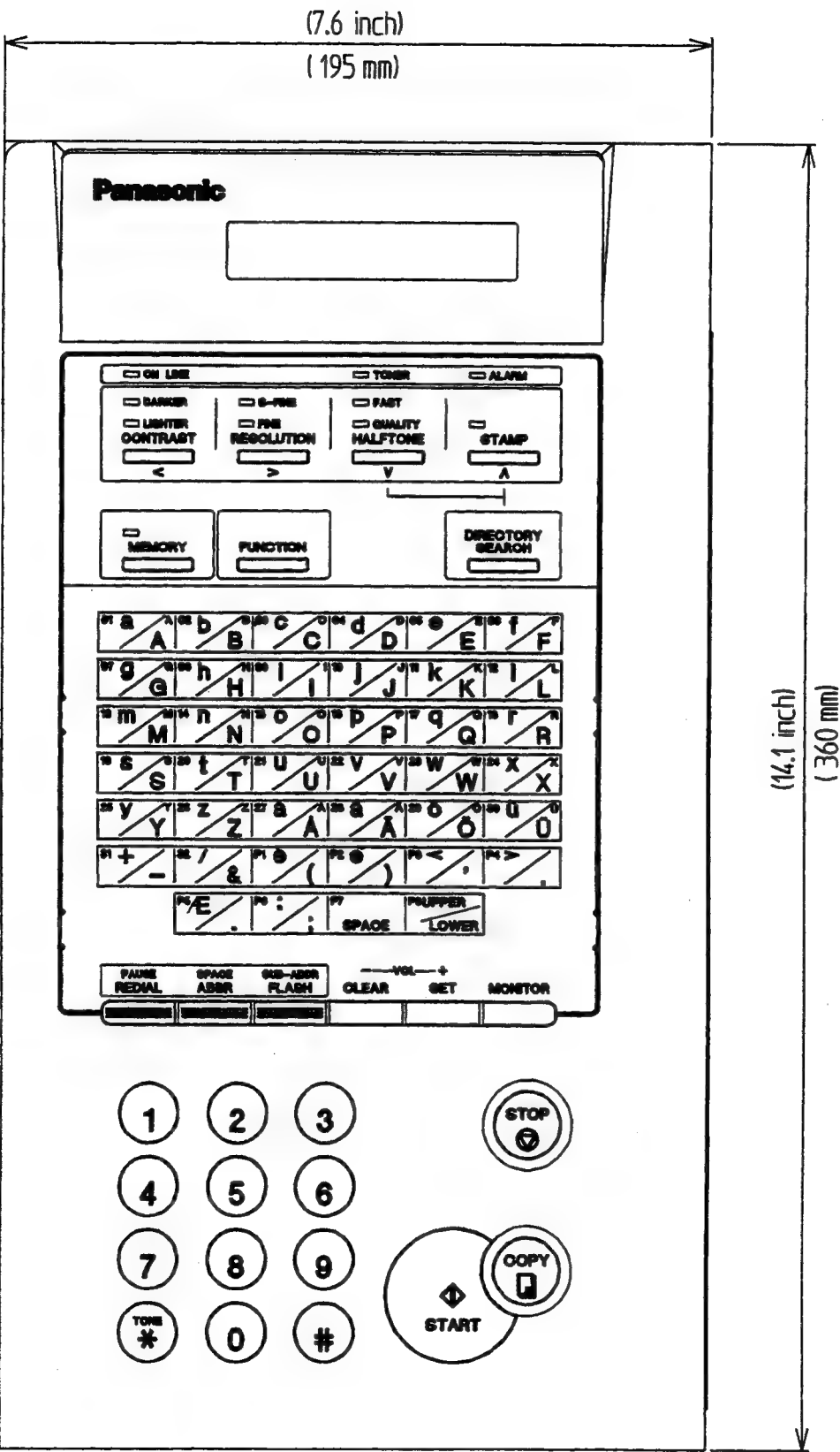
## 1.8 Construction

Dimensions (W × D × H)	UF-770: 430 × 415 × 280 mm
	UF-880: 430 × 440 × 280 mm
Weight (excluding paper)	Approximately 15 kg

External View



Control Panel



## 1.9 Function Table

Items	UF-770	UF-880
<b>MAIN SPECIFICATION</b>		
Compatibility	G3	←
Modem Speed (kbps)	14.4 / 12 / 9.6 / 7.2 / 4.8 / 2.4	33.6~2.4
Coding Scheme	MH / MR / MMR	MH / MR / MMR / JBIG
ECM (Conforms to ITU-T CCITT)	Yes (MMR)	Yes (MMR / JBIG)
MWS	No	←
Short Protocol	Yes (B)	←
Transmission Speed (ITU-T Image No. 1)	6 Seconds	3 Seconds
Communication Resolution (lpi) (Conforms to ITU-T / CCITT)	Tx 203 × 98 203 × 196 203 × 391 Rx 203 × 98 203 × 196	←
<b>SCANNER MECHANISM</b>		
ADF Capacity	50 sheets	←
Max.Document Size	280 × 2,000 mm	←
Min.Document Size	148 × 128 mm	←
Effective Scanning Width	252 mm	←
Scanning Device	CCD (B4)	←
Scanning Resolution	203 × 98 lpi (8 pels × 3.85 lines/mm) 203 × 196 lpi (8 pels × 7.7 lines/mm) 203 × 391 lpi (8 pels × 15.4 lines/mm)	←
Scanning Speed (A4 size document)	Approx. 2.8 seconds	←
Reduction XMT	Yes (B4 → A4/Letter)	←
Collation Stack	Yes	←
<b>PRINTER MECHANISM</b>		
Recording Method	LBP	←
Recording Paper Size	A4/Letter/Legal	←
Recording Paper Capacity	250 sheets (Cassette)	←
Optional Recording Paper Cassette	Yes (250 or 500 or 250 + 500 sheets)	←
Effective Printing Width	Letter 208 mm A4 202 mm	←
Recording Resolution	406 × 391 dpi	←
Recording Speed	10 ppm (6 sec/page)	←
Heater Timer (Inc. Fan Timer)	Yes	←
Collation Stack	Yes (Memory)	←
Cassette Size Detector	Yes	←
<b>DOCUMENT MEMORY</b>		
Document Memory Capacity	70 pages (1MB)	←
Optional Document Memory	Yes (1 MB, 2 MB, 4 MB or 8 MB)	←
Document Memory Backup	Yes (1 hour)	←
Optional Document Memory Backup	Yes (72 hour)	←
<b>COPY QUALITY</b>		
ABC	Yes	←
Contrast Selection	Yes (3 levels) [New Type]	←
Halftone	64 levels, Error Diffusion, Fast or Quality Mode	←
Super Fine (lpi)	S-Fine (203 × 391) [Tx only]	←
Smoothing	Yes	←
<b>DUAL OPERATIONS</b>		
Dual Operation	Yes	←
Direct XMT Reserve	Yes	←

Items	UF-770	UF-880
Memory XMT Reserve	Yes	←
<b>DIALING FEATURES</b>		
One-Touch Keys	32	←
One-Touch/Program Keys	8	←
Auto dialing locations	140	←
One-Touch Auto Dialing	40	←
Abbr. Auto Dialing	100	←
Max. digits on AD	36	←
Max. ID characters on AD	15	←
Alternative Abbr. Dialing	No	←
Full Number Dialing	32 stations	←
Redialing	Yes	←
Combination Dialing	Yes	←
Directory Search Dialing	Yes	←
Line Monitor Speaker	Yes	←
Pulse/Tone change	Yes	←
Flash Key	Yes	←
<b>TRANSMISSION FEATURES</b>		
Memory Transmission	Yes	←
Multi-Station Transmission	Yes (172 stations)	←
Multifile Transmission	Yes (30 files)	←
Deferred Transmission	Yes (30 timers)	←
Deferred Multi-Station Transmission	Yes (30 timers, 172 stations)	←
Priority Transmission	Yes (ADF TX Reserve)	←
Batch Transmission	No	←
Cover Sheet	Yes	←
<b>RECEPTION FEATURES</b>		
Substitute Memory Reception	Yes	←
Auto Reduction to A4 / Letter	Yes (70-100%)	←
Auto Reduction to Legal	Yes (85-100%) Automatic Reduction	←
Overlapping Print	Yes	←
Fax/Tel Auto Switch	No	←
TAM Interface	No	←
Parallel TAM hookup	No	←
Receive to Memory	Yes	←
Remote Reception	No	←
Distinctive Ring Detector	Yes	←
<b>POLLING FEATURES</b>		
Polling	Yes	←
Turnaround Polling	No	←
Multi-Station Polling	Yes (172 stations)	←
Continuous Polling Tx	Yes (Station mode)	←
Continuous Polling Rx	Yes	←
Deferred Polling	Yes (30 timers)	←
Deferred Multi-Station Polling	Yes (30 timers, 172 stations)	←
Direct Polling TX	Yes (Select the function by parameter 03 "Continuous Polling".)	←
Memory Polling TX	Yes (1 file)	←
Preset Polling Password	Yes	←

Items	UF-770	UF-880
Temporary Polling Password	Yes	←
<b>COPY FUNCTIONS</b>		
Single Copy	Yes	←
Multiple Copy	Yes (99 copies)	←
Reduction Copy	Yes	←
Copying Resolution	203 × 196 lpi	←
<b>CERTAINTY</b>		
Verification Stamp	Yes	←
Header / Total Page Print	Yes	←
Comm. Journal	Yes (w / Image)	←
Transaction Journal	Yes (100)	←
Last Individual XMT Journal	Yes	←
View Mode	Yes	←
<b>LIST PRINTOUTS</b>		
One-Touch List	Yes	←
Abbr. No. List	Yes	←
Program List	Yes	←
Directory Search List	Yes	←
Fax Parameter List	Yes	←
File List	Yes	←
Character Code List	No	←
Directory Sheet	Yes	←
Callback Message	No	←
<b>IDENTIFICATIONS</b>		
Logo/TTI	25 characters	←
Characters ID	16 characters	←
Numeric ID	20 digits	←
<b>SPECIAL COMM.</b>		
Password XMT/RCV (Closed Network)	Yes	←
Selective Reception (TSI check)	Yes	←
Relay XMT Request	Yes	←
Relay XMT Center	No	←
Confidential XMT/Polling	Yes	←
Confidential Comm. Center	No	←
Mailbox XMT/Polling	Yes	←
Mailbox Center	Yes (10 boxes)	←
OMR-XMT	Yes	←
Sub-Address XMT	Yes (T. Routing)	←
Sub-Address RCV	Yes (T. Routing with PC I/F)	←

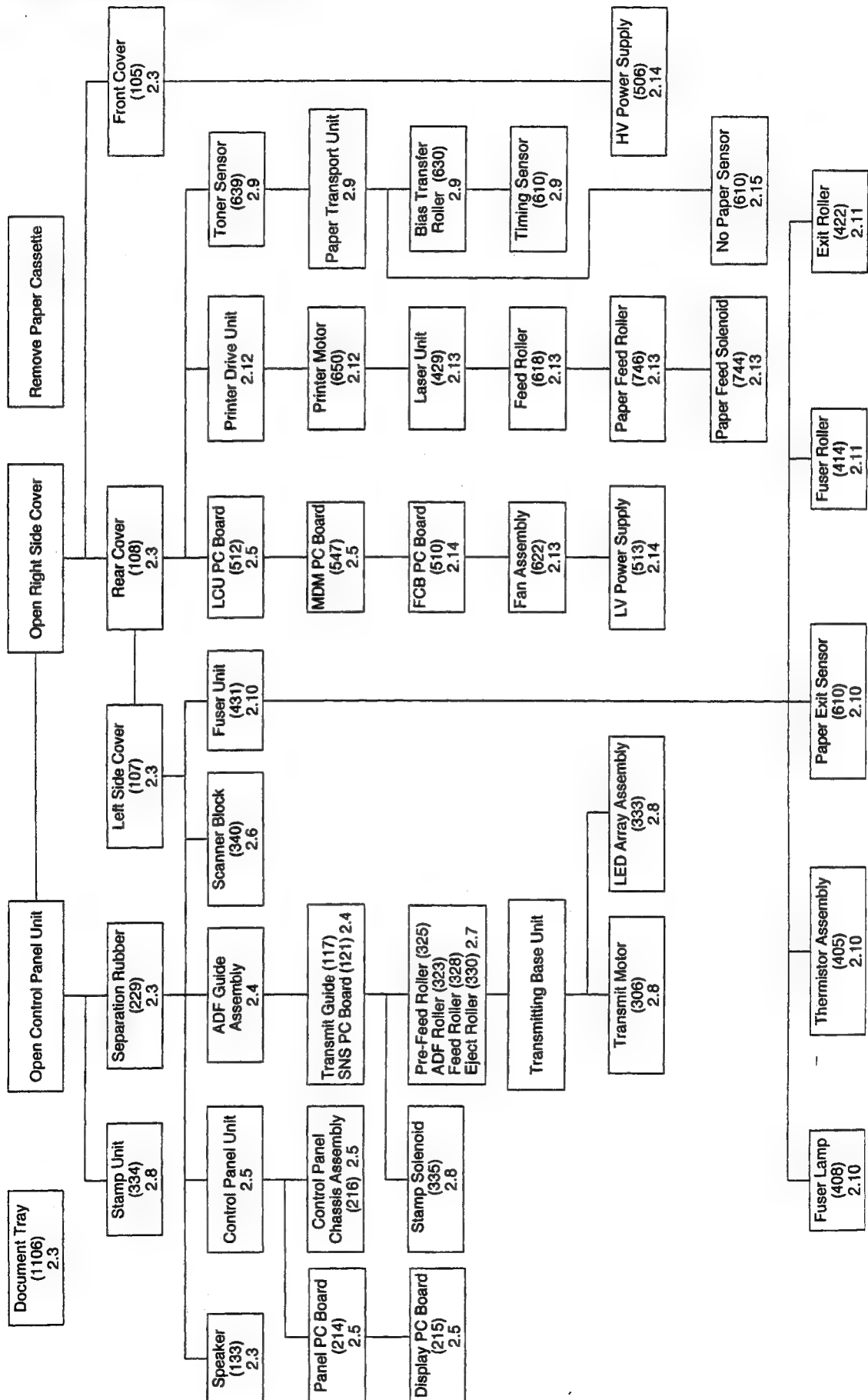


Items	UF-770	UF-880
<b>OTHERS</b>		
Fax Access Code	Yes	←
Department Code	Yes	←
Panel Display	20 × 2 Alphanumeric LCD	←
Logo Input Method	Character Keys	←
Remote Diagnostic Function	Yes	←
Internal Demo	No	←
2-W Leased Line	No	←
AI Redial	Yes (Up to 2 files)	←
Auto Multi-copy	No	←
Auto-Forwarding	Yes	←
Check & Call Function	Yes	←
<b>OPTIONS</b>		
Printer Interface	Yes	←
Encryption Interface	Yes	No
V24 Interface	Yes	No
PC Interface	Yes	←
<b>CONSTRUCTION</b>		
Telephone Handset	No (Optional)	←
Dimensions (W × D × H)	430 × 415 × 280 mm	430 × 440 × 280 mm
Weight	15 kg	←

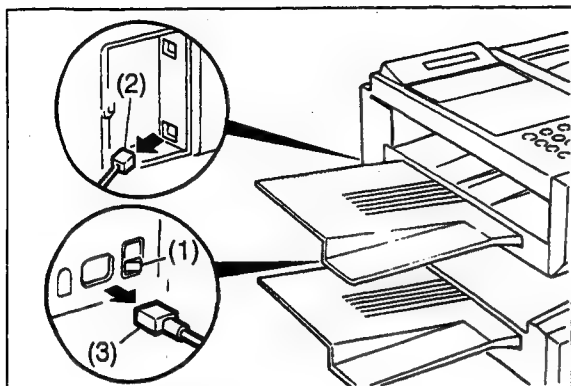
## **Chapter 2**

# **Disassembly**

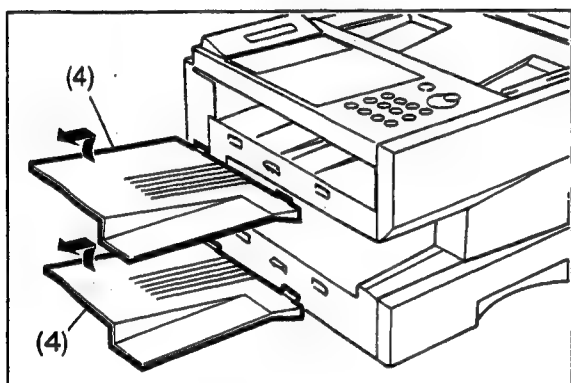
## 2.1 General Disassembly Flowchart



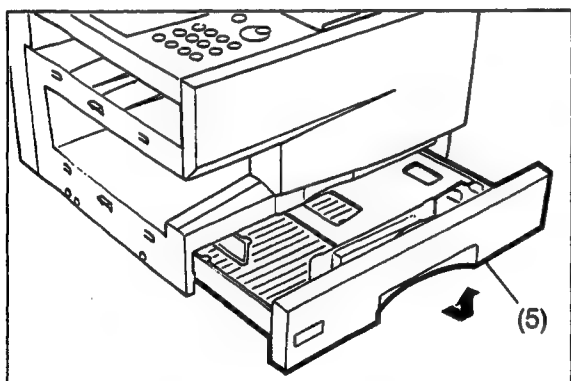
## **2.2 Document Tray (1106), Paper Cassette (815)**



- (1) Turn the **Power Switch** "OFF".
- (2) Disconnect the **Line Cord** (907).
- (3) Disconnect the **Power Cord** (908).

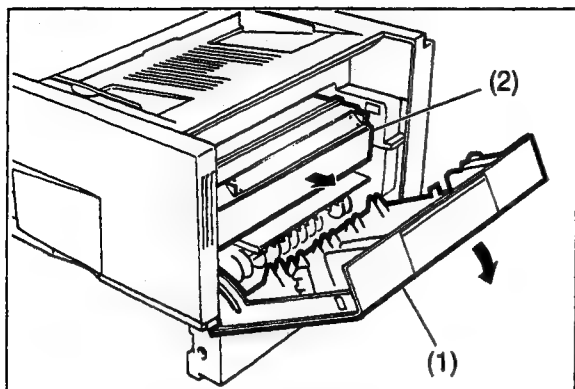


- (4) Remove the **Document Trays** (1106).

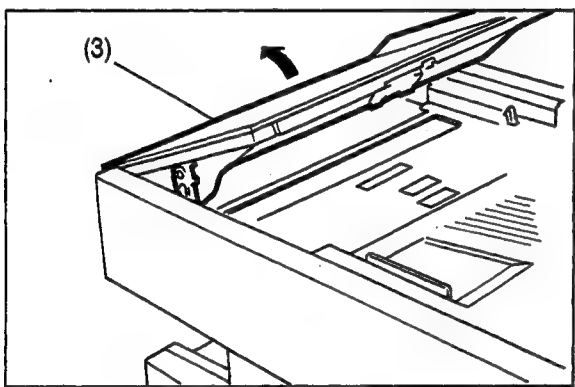


- (5) Remove the **Paper Cassette** (815).

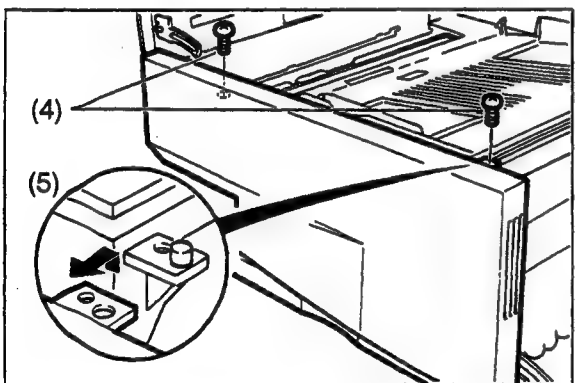
### 2.3 Front Cover (105), Rear Cover (108), Left Side Cover (107)



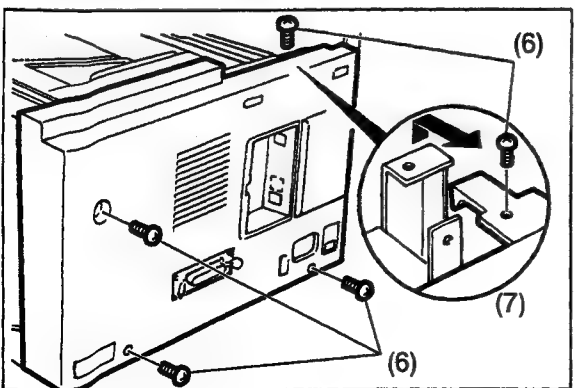
- (1) Open the **Printer Cover** (122).
- (2) Remove the **Toner Cartridge**.



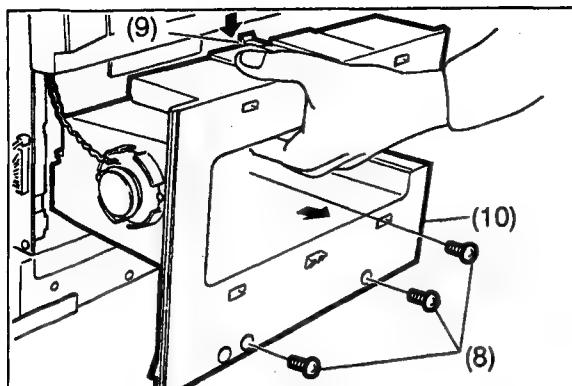
- (3) Open the **Control Panel Unit**.



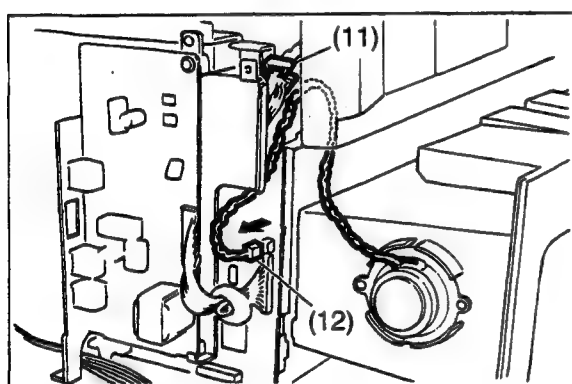
- (4) Two **Screws** (B1)
- (5) Release hook and remove the **Front Cover** (105).



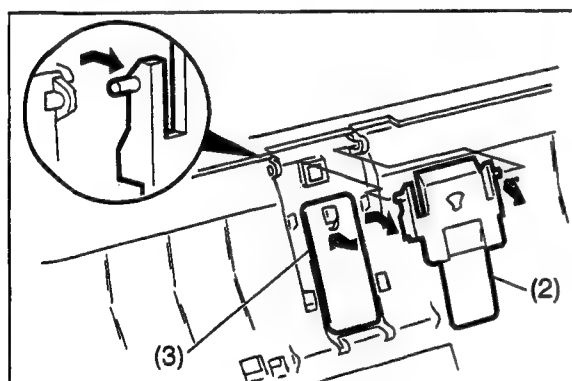
- (6) Four **Screws** (B1)
- (7) Release hook and remove the **Rear Cover** (108).



- (8) Three **Screws** (B1)
- (9) Hold in the center and release Latch Hook.
- (10) Remove the **Left Side Cover** (107).

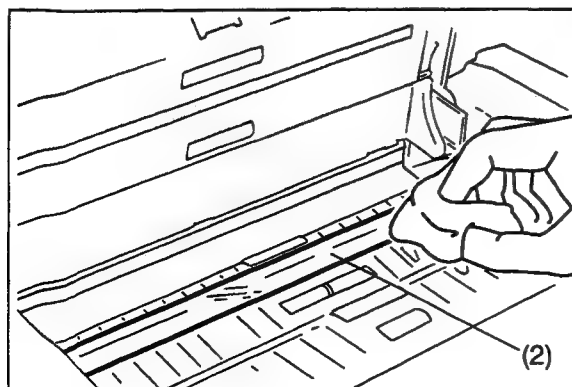


- (11) Remove Speaker Cable from the clamp.
- (12) Disconnect Connector CN8.



**Cleaning Separation Rubber (229)**

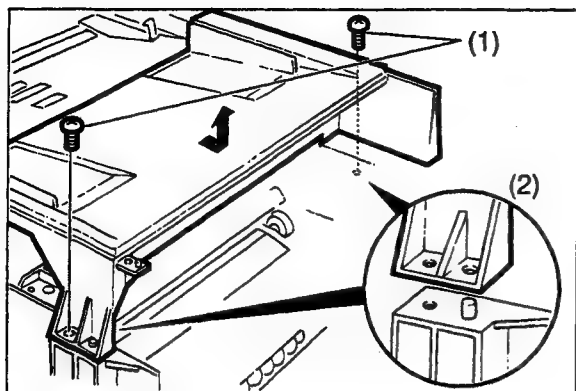
- (1) Open the **Control Panel Unit**.
- (2) Remove the **Pre-Feed Cover** (223).
- (3) Remove the **Separation Rubber** (229).
- (4) Clean the **Separation Rubber** (229) with a soft cloth, soaked with isopropyl alcohol.



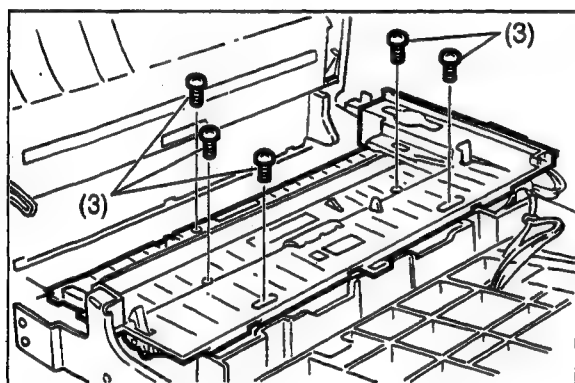
**Cleaning Scanning Glass (341)**

- (1) Open the Control Panel Unit.
- (2) Clean the **Scanning Glass** (341) with a soft cloth, soaked with isopropyl alcohol.

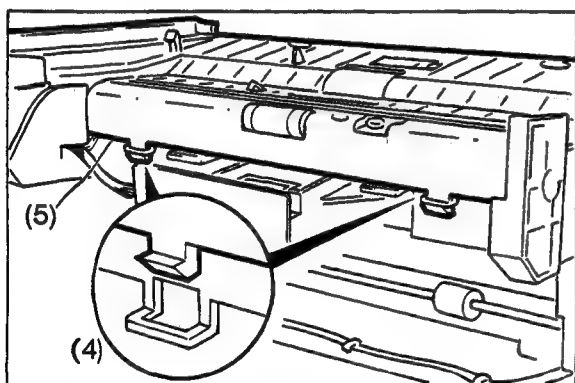
## 2.4 ADF Guide Assembly, Transmit Guide (117)



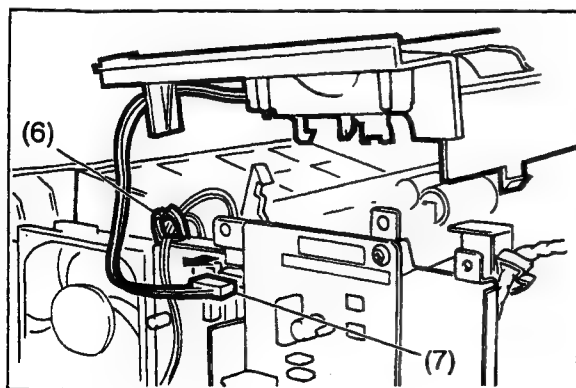
- (1) Two **Screws** (19)
- (2) Remove the **ADF Guide Assembly**.



- (3) Five **Screws** (19)

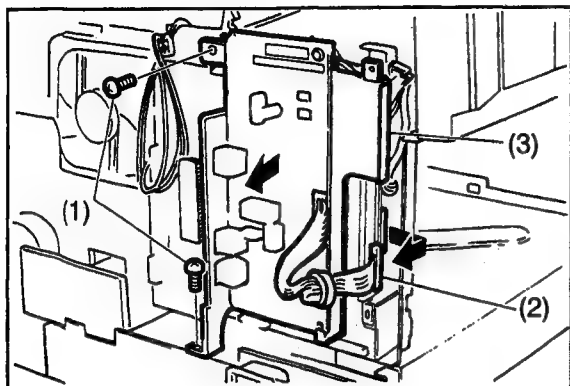


- (4) Release two Latch Hooks.
- (5) Remove the **Transmit Guide** (117).

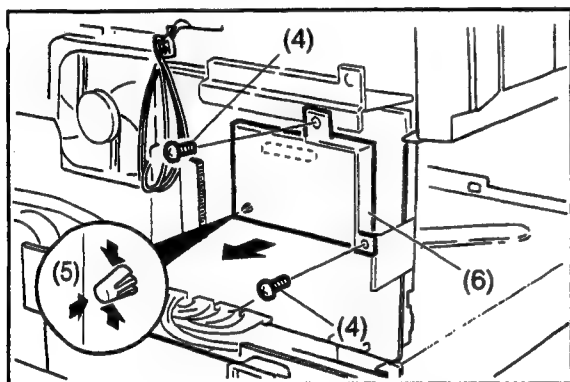


- (6) Remove Sensor Cable from the clamp.
- (7) Disconnect Connector CN3.

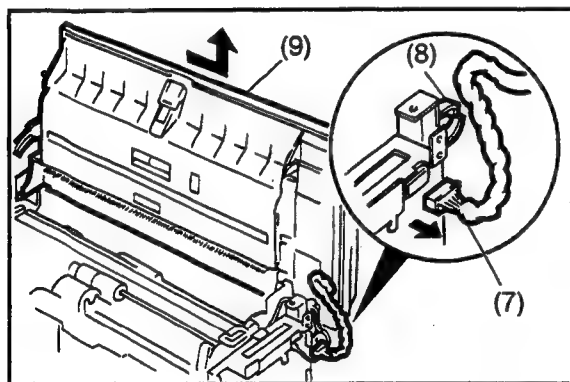
## 2.5 LCU PC Board (512), MDM PC Board (547), Control Panel Unit, Panel PC Board (214), Display PC Board (215)



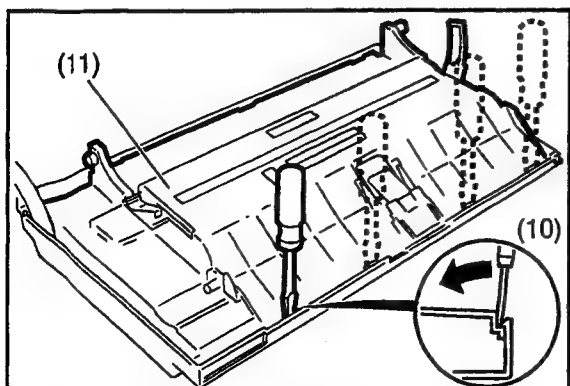
- (1) Two **Screws** (19)
- (2) Disconnect Connector CN7 (UF-880: CN42).
- (3) Remove the **LCU PC Board** (512) with bracket.



- [For UF-770, skip to step 7]
- (4) Two **Screws** (C8).
- (5) Pinch **Locking Spacer** (546).
- (6) Remove the **MDM PC Board** (547) with bracket.



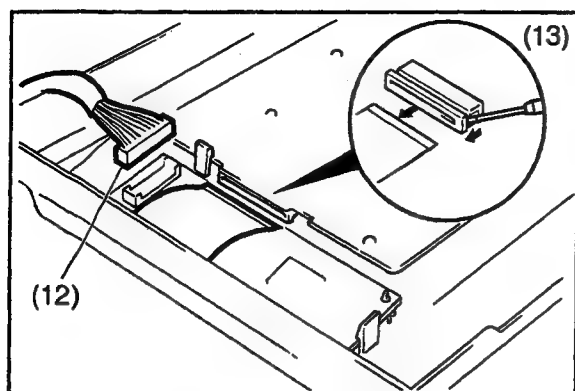
- (7) Disconnect Connector CN5.
- (8) Remove Cable from the clamp.
- (9) Remove the **Control Panel Unit**.



- (10) Release four Latch Hooks.
- (11) Remove the **Control Panel Chassis Assembly** (216).

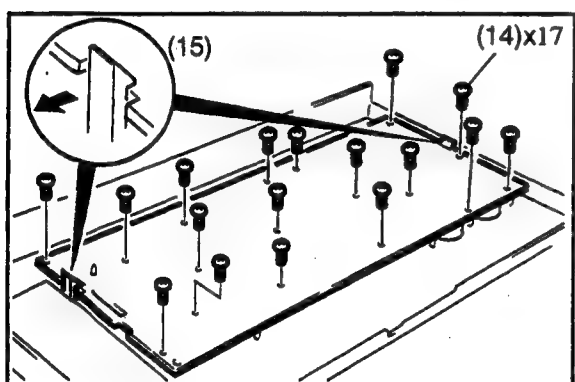
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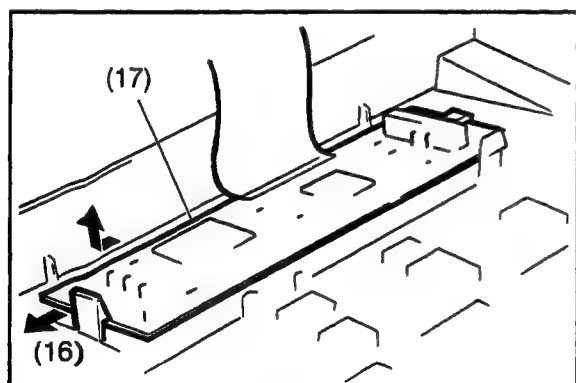
(12) Disconnect Connector CN1.

(13) Release Lock from both sides of Connector CN42 and disconnect the Flat Cable.



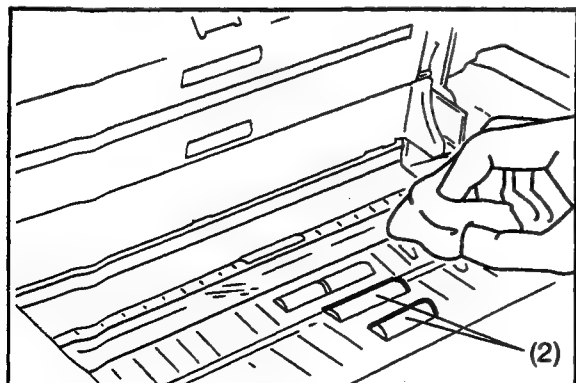
(14) 17 **Screws** (7B)

(15) Release two Latch Hooks and Remove the **Panel PC Board** (214).



(16) Release Latch Hook.

(17) Remove the **Display PC Board** (215).

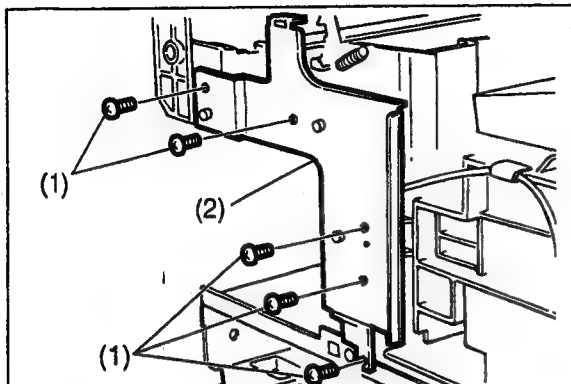


#### **Cleaning ADF Roller (323), Pre-Feed Roller (325)**

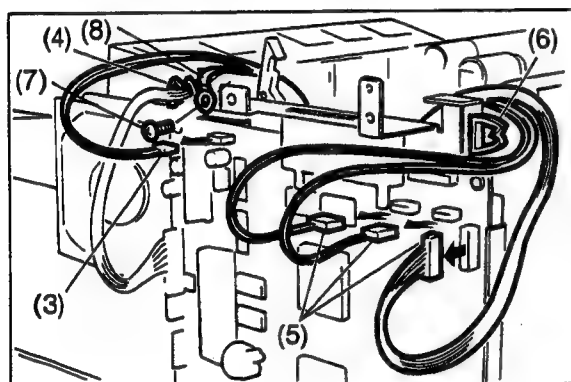
(1) Open the Control Panel Unit.

(2) Clean the **ADF Roller** (323), **Pre-Feed Roller** (325), **Eject Roller** (330) and **Feed Roller** (328) with a soft cloth, soaked with isopropyl alcohol.

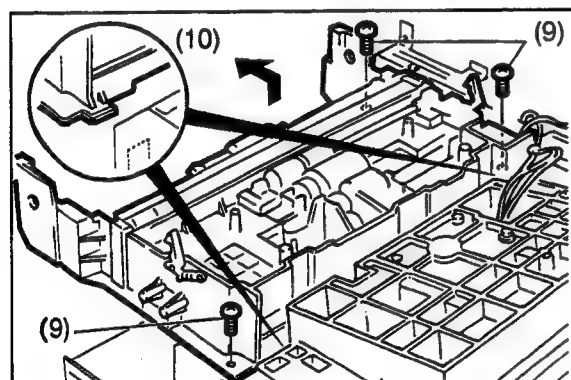
## 2.6 Transmitting Base Unit, Scanner Block (340)



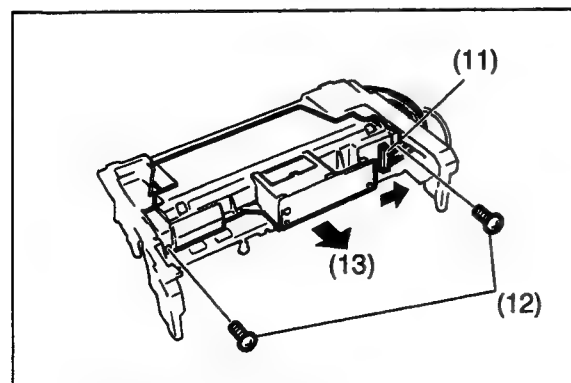
- (1) Five **Screws** (19)
- (2) Remove the **Transmitter Plate** (116).



- (3) Disconnect Connector CN9.
- (4) Remove Cable from the clamp.
- (5) Disconnect Connector CN10, 11 and 12.
- (6) Remove Cables from the clamp.
- (7) One **Screw** (19)
- (8) Remove the **GND Wire** (541) from the clamp.

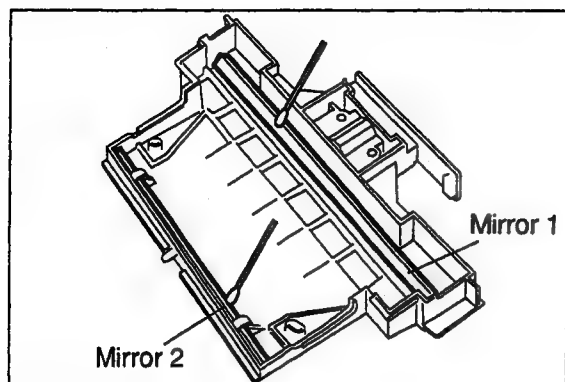


- (9) Three **Screws** (19)
- (10) Remove the **Transmitting Base Unit**.



- (11) Disconnect Connector CN30.
- (12) Two **Screws** (19)
- (13) Remove the **Scanner Block** (340).

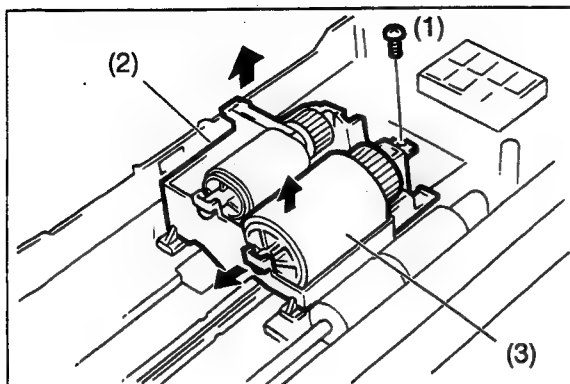
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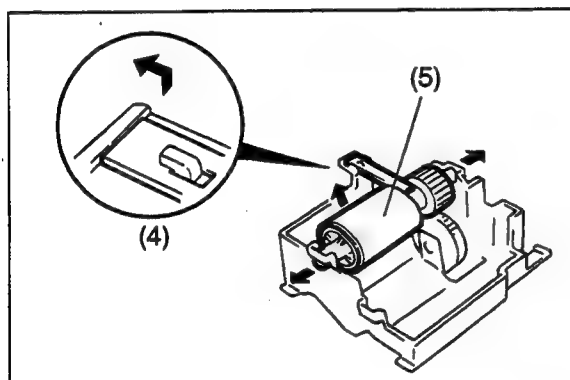
**Cleaning *Mirror 1* (337), *Mirror 2* (338)**

Clean the Mirror 1 (337) and Mirror 2 (338) with a soft cloth, soaked with isopropyl alcohol.

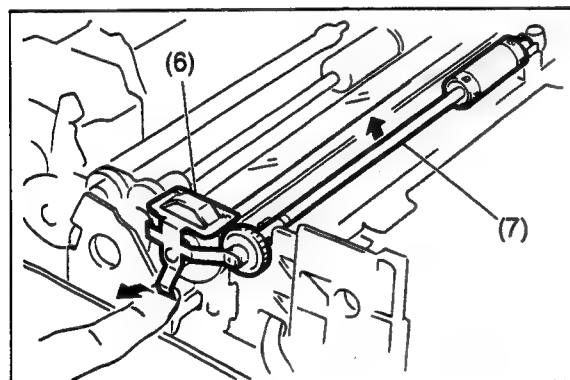
## 2.7 ADF Roller (323), Pre-Feed Roller (325), Eject Roller (330), Feed Roller (328), Transmission Gear Assembly



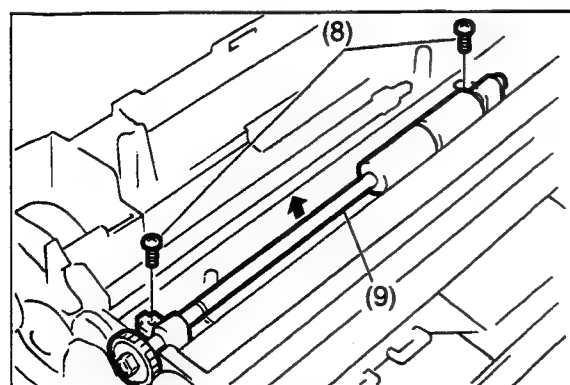
- (1) One **Screw** (19)
- (2) Remove the **ADF Roller Box**.
- (3) Remove the **ADF Roller** (323).



- (4) Remove the **Pressure Plate** (324).
- (5) Remove the **Pre-Feed Roller** (325).

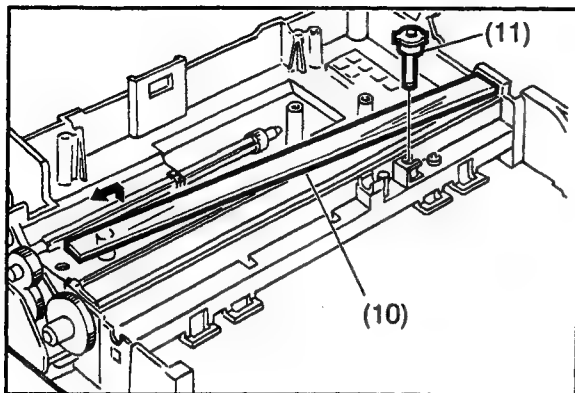


- (6) Remove the **Earth Spring Plate A** (316).
- (7) Remove the document **Eject Roller** (330).

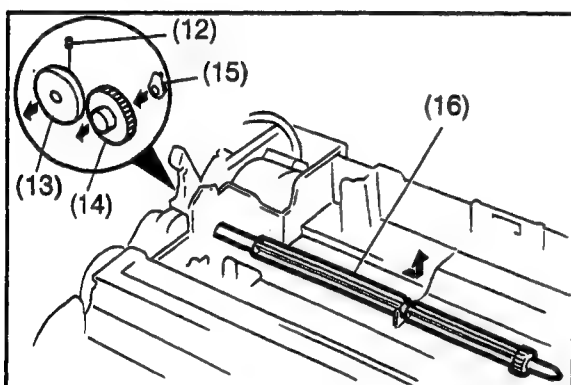


- (8) Two **Screws** (19)
- (9) Remove the **Feed Roller** (328).

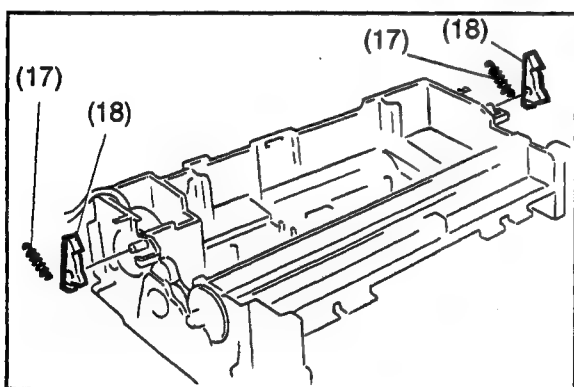
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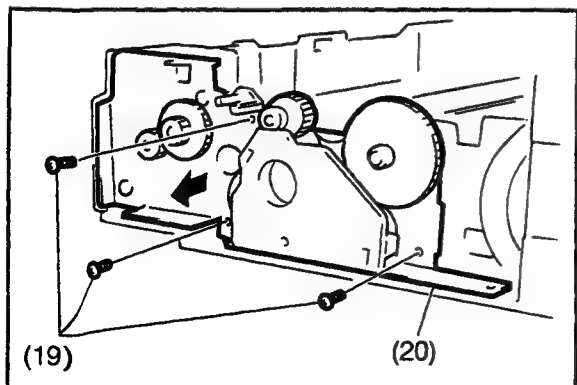
- (10) Remove the **Scanning Glass** (341).
- (11) Remove the **Stamp Head Assembly**.



- (12) One Allen **Screw** (D6)
- (13) Remove the **Flywheel** (345)
- (14) Remove the **Drive Gear** (314).
- (15) Remove the **Bushing** (343).
- (16) Remove the **Transmission Shaft** (331).

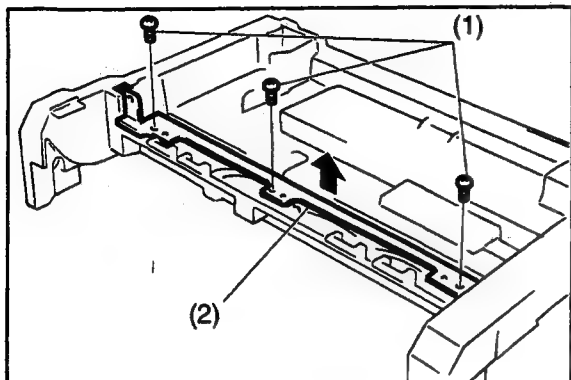


- (17) Remove two **Latch Coil Springs** (303).
- (18) Remove two **Latches** (302).



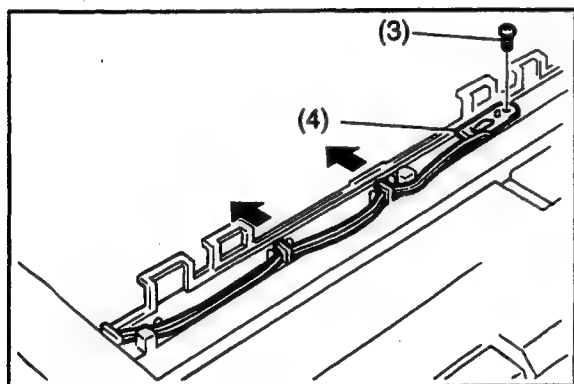
- (19) Three **Screws** (19)
- (20) Remove the **Transmission Gear Assembly**.

## 2.8 B4 LED Array Assembly (333), Verification Stamp Assembly, Transmit Motor (306)



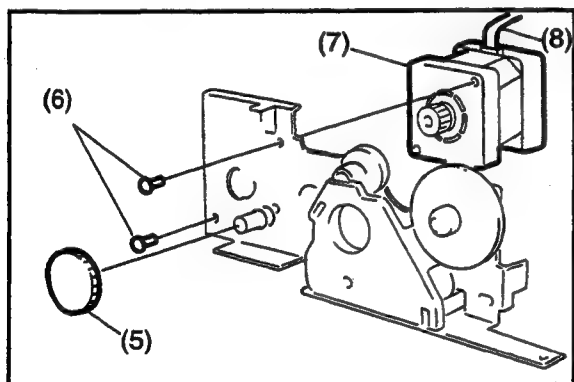
(1) Three **Screws** (19)

(2) Remove the **B4 LED Array Assembly** (333).



(3) One **Screw** (19)

(4) Remove the **Stamp Unit** (334) and **Stamp Solenoid** (335).



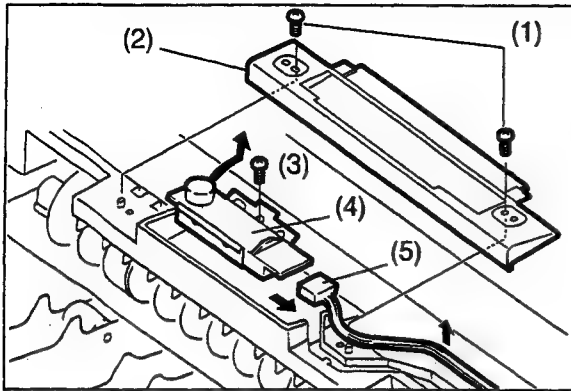
(5) Remove the **Gear** (307).

(6) Two **Screws** (19)

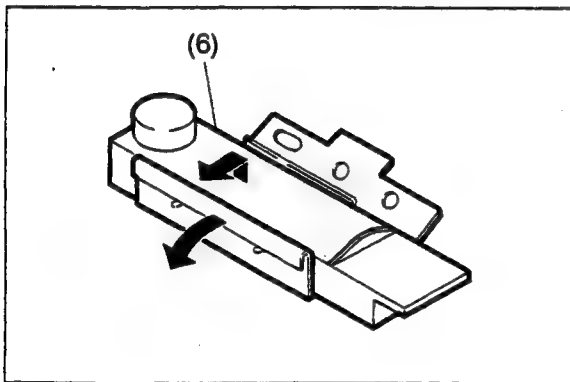
(7) Remove the **Transmit Motor** (306).

(8) Remove the **Transmit Motor Harness** (344).

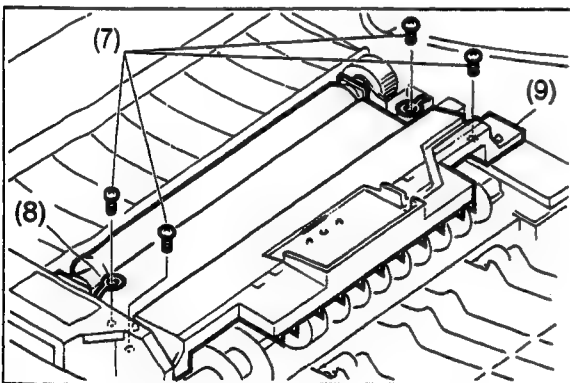
## 2.9 Toner Sensor (639), Bias Transfer Roller (630), Timing Sensor (610)



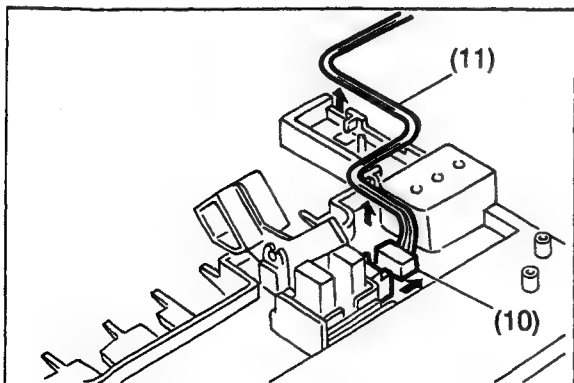
- (1) Two **Screws** (19)
- (2) Remove the **Toner Sensor Cover** (640).
- (3) One **Screw** (19)
- (4) Remove the **Toner Sensor Assembly**.
- (5) Disconnect connector and remove cable from the Upper Transport Guide.



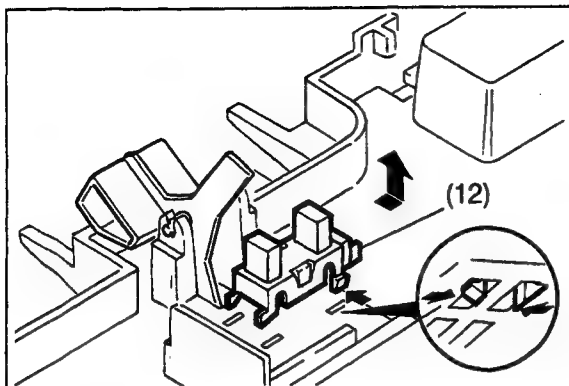
- (6) Remove the **Toner Sensor** (639).



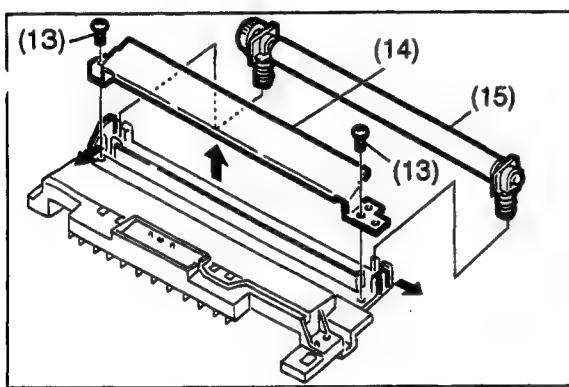
- (7) Four **Screws** (19) (Remove screw for the resistor first.)
- (8) Remove the **GND Harness** (653).
- (9) Remove the **Transport Unit**.



- (10) Disconnect connector.
- (11) Remove Cable from the Transport Unit.



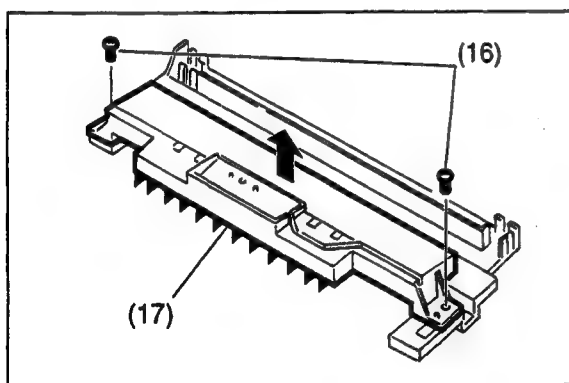
(12) Remove the **Timing Sensor** (610).



(13) Two **Screws** (19)

(14) Remove the **BTR Guide** (629).

(15) Remove the **Bias Transfer Roller** (630).

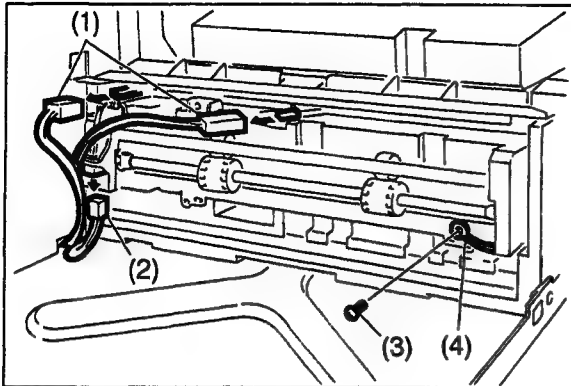


(16) Two **Screws** (19)

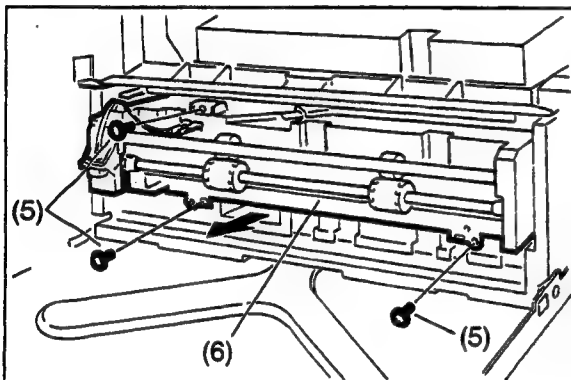
(17) Remove the **Upper Transfer Guide** (635).



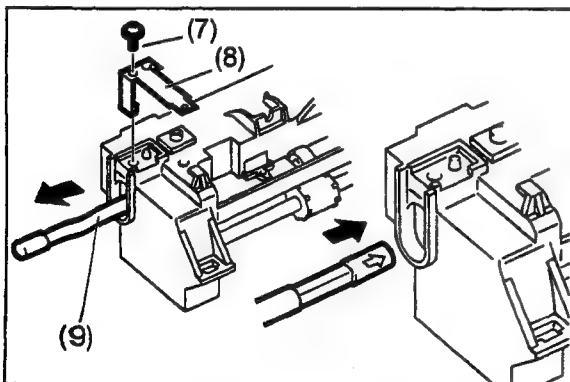
## 2.10 Fuser Unit (431), Fuser Lamp (408), Thermistor Assembly (405), Paper Exit Sensor (610)



- (1) Disconnect two connectors.
- (2) Disconnect relay connector.
- (3) One **Screw** (19)
- (4) Remove the **GND Harness** (653).



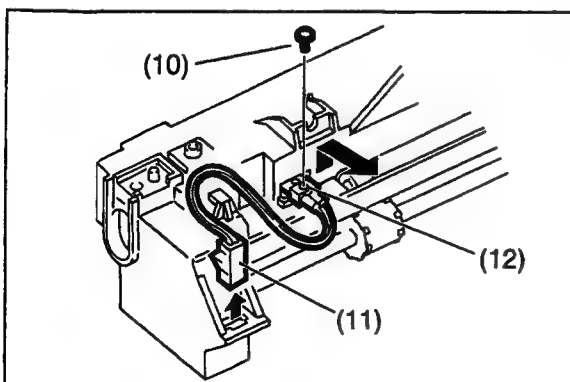
- (5) Three **Screws** (4N)
- (6) Remove the Fuser Unit.



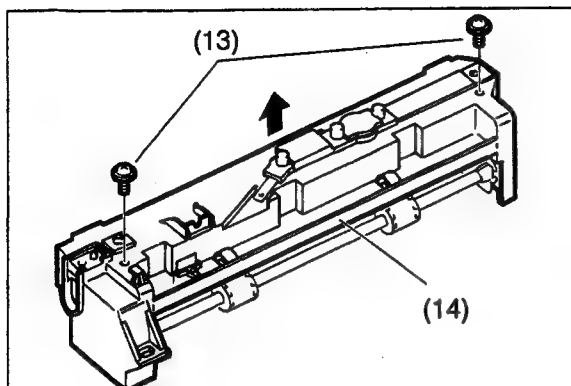
- (7) One **Screw** (23)
- (8) Remove the **Fuser Lamp Terminal C** (404).
- (9) Remove the **Fuser Lamp** (408).

**Caution:** When re-installing the Fuser Lamp, make sure that the Fuser Lamp is inserted into the Fuser Unit as illustrated on the left.

Do not touch the glass portion of the Fuser Lamp with bare hands. Grease from fingerprints will shorten its life cycle, use isopropyl alcohol to clean fingerprints.

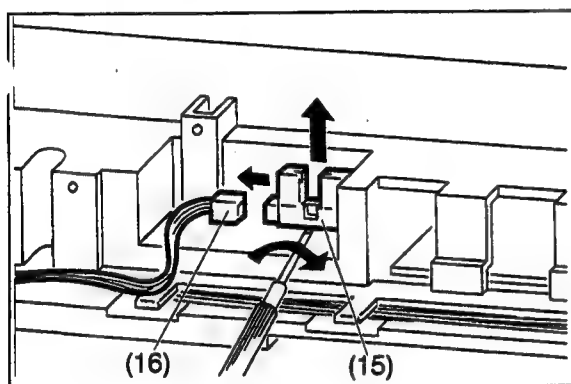


- (10) One **Screw** (1Q)
- (11) Disconnect connector.
- (12) Remove the **Thermistor** (405).



(13) Two **Screws** (23)

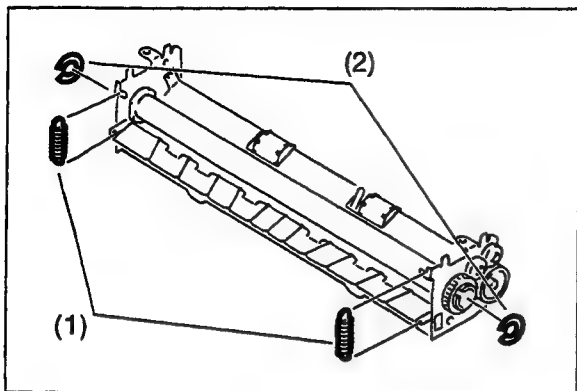
(14) Remove the **Fuser Cover** (401).



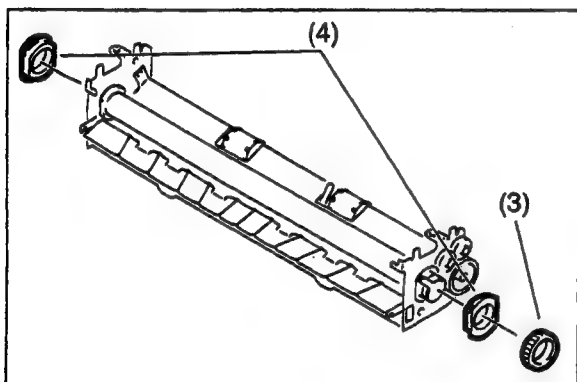
(15) Remove the **Paper Exit Sensor** (610).

(16) Disconnect connector.

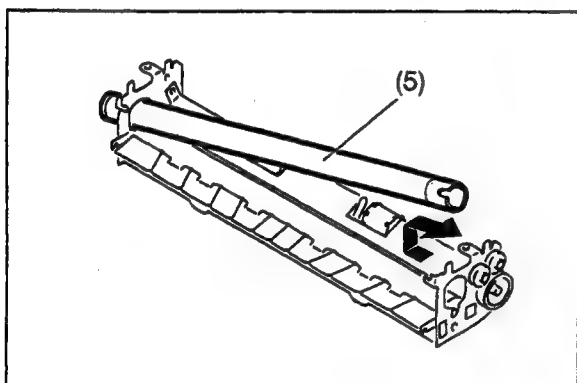
## 2.11 Fuser Roller (414), Eject Roller (422), Pressure Roller (409)



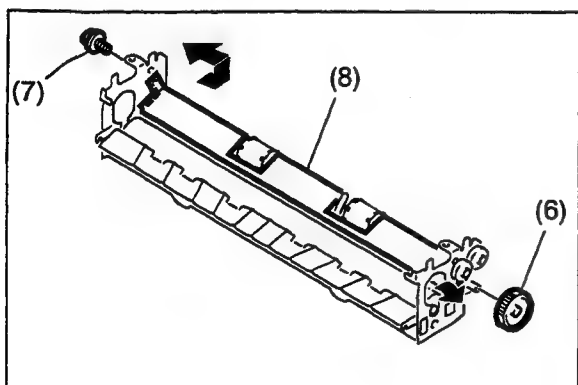
- (1) Two **Pressure Springs** (412)
- (2) Two **C-Rings** (418)



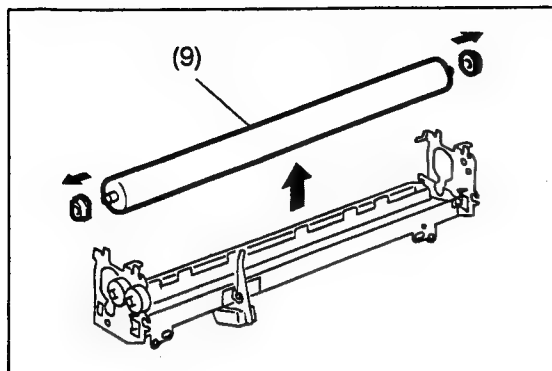
- (3) Remove the **Drive Gear** (417).
- (4) Remove two **Bushings** (416).



- (5) Remove the **Fuser Roller** (414).
- Caution:** Do not scratch the surface of the Fuser Roller when removing or re-installing it.

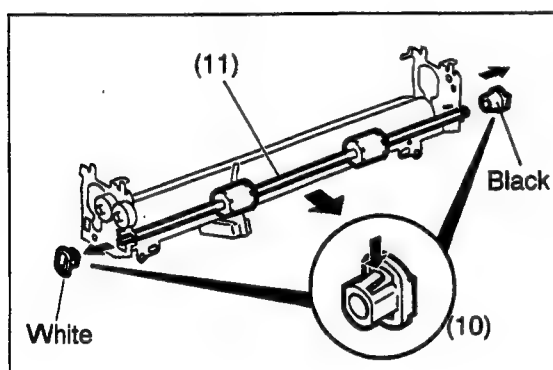


- (6) Remove the **Gear** (425).
- (7) One **Screw** (4N)
- (8) Remove the **Lower Paper Guide** (426).



(9) Remove the **Pressure Roller** (409).

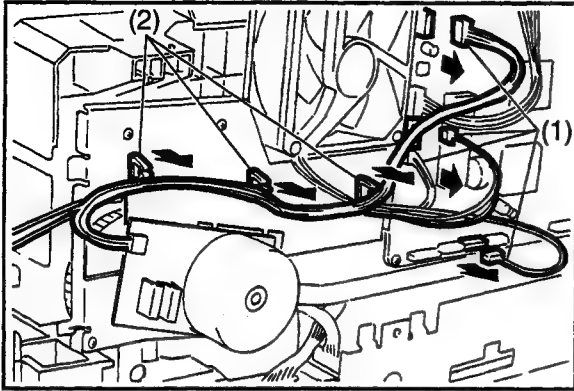
**Caution:** Do not scratch the surface of the Pressure Roller when removing or re-installing it.



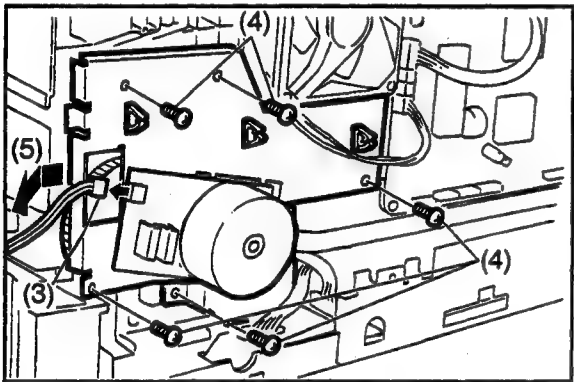
(10) Remove two **Bushings** (423) (424).

(11) Remove the **Exit Roller** (422).

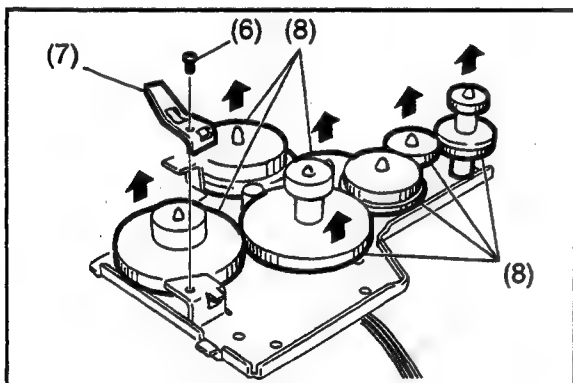
## 2.12 Printer Driving Unit, Printer Motor (650)



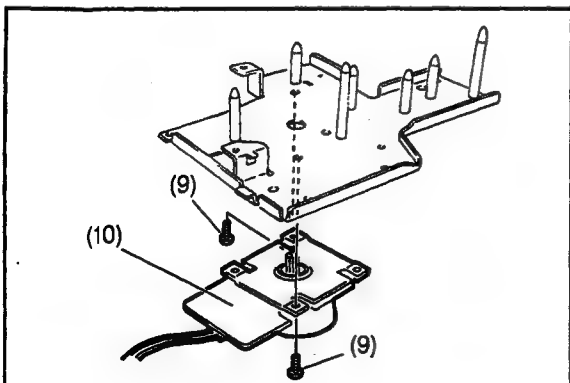
- (1) Disconnect connectors CN59, 54, 55 and 63.
- (2) Remove each cable from the clamp.



- (3) Disconnect connector from the Printer Motor and remove its cable.
  - (4) Five **Screws** (19)
  - (5) Remove the Printer Drive Unit.
- Caution:** When removing the Printer Drive Unit, make sure that the gears are not damaged.

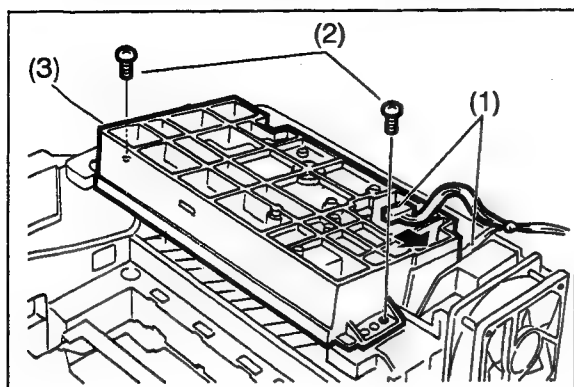


- (6) One **Screw** (19)
  - (7) Remove the **Transfer Earth Spring** (649).
  - (8) Seven Gears
- Caution:** When re-installing the gear (labeled "6"), be sure the washer go in the shaft first.

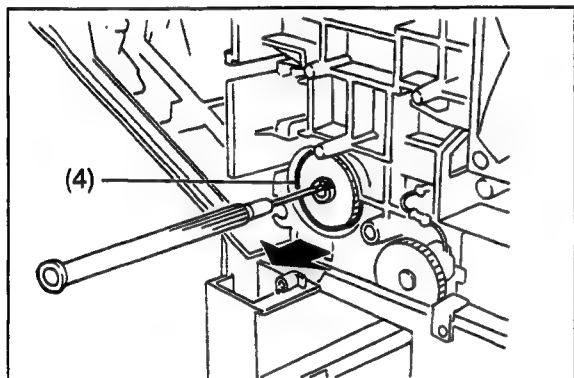


- (9) Two **Screws** (4N)
- (10) Remove the **Printer Motor** (650).

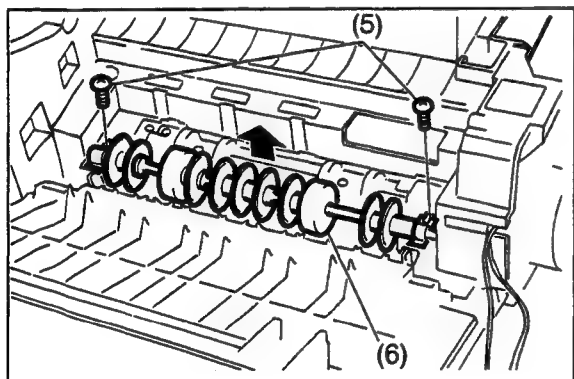
## 2.13 Laser Unit (429), Feed Roller (618), Paper Feed Roller (746), Clutch Assembly Gear (660), Paper Feed Solenoid (744), Fan Assembly (622)



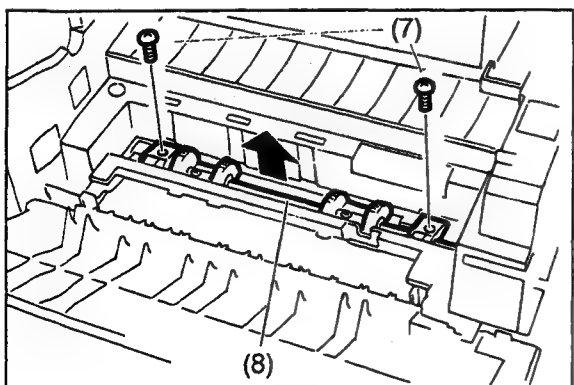
- (1) Disconnect connectors.
- (2) Two **Screws** (19)
- (3) Remove the **Laser Unit** (429).



- (4) Remove the **Drive Gear** (620).

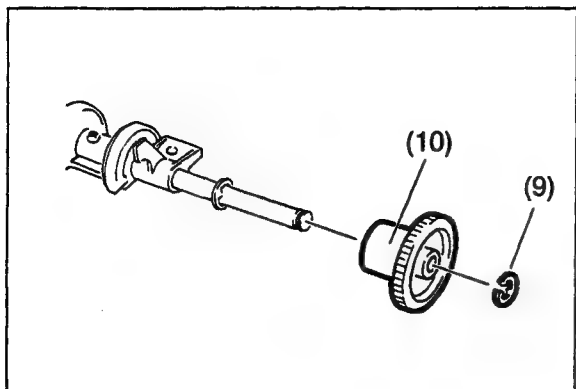


- (5) Two **Screws** (19)
- (6) Remove the **Feed Roller** (618).

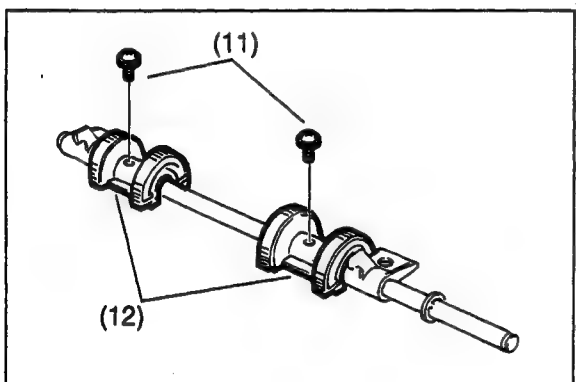


- (7) Two **Screws** (19)
- (8) Remove the Paper Feed Roller Assembly.

Continued on the next page.

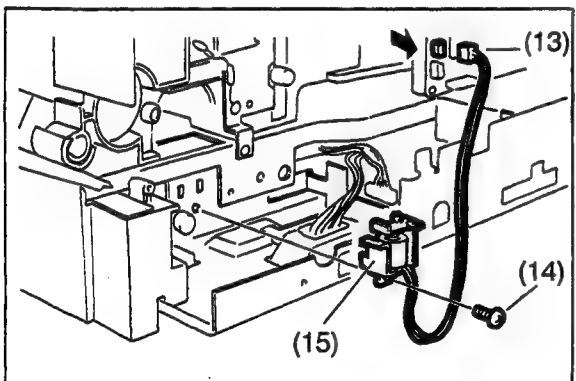


- (9) Remove the **E-Ring** (5Z).
- (10) Remove the **Clutch Assembly Gear** (660).

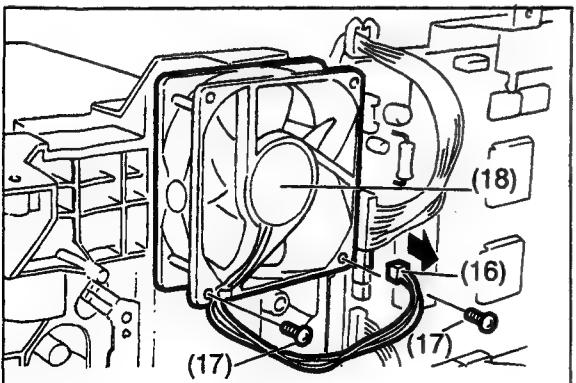


- (11) Two **Screws** (23)
- (12) Remove the **Paper Feed Rollers** (746).

**Note:** The Paper Feed Rollers can be accessed from the bottom of the machine after removing the Paper Cassette.

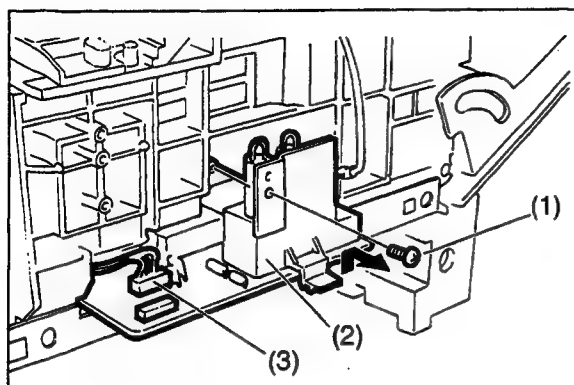


- (13) Disconnect connector CN55.
- (14) One **Screw** (19)
- (15) Remove the **Paper Feed Solenoid** (744).

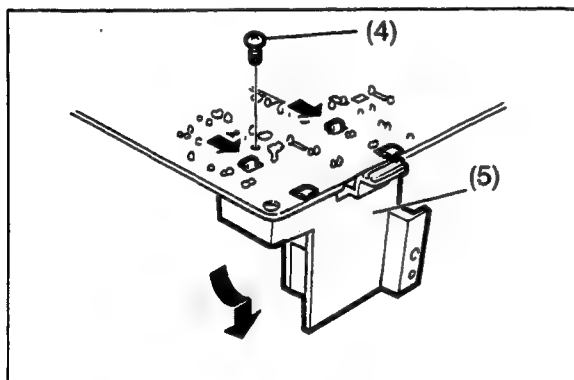


- (16) Disconnect connector CN54.
- (17) Two **Screws** (1Y)
- (18) Remove the **Fan Assembly** (622).

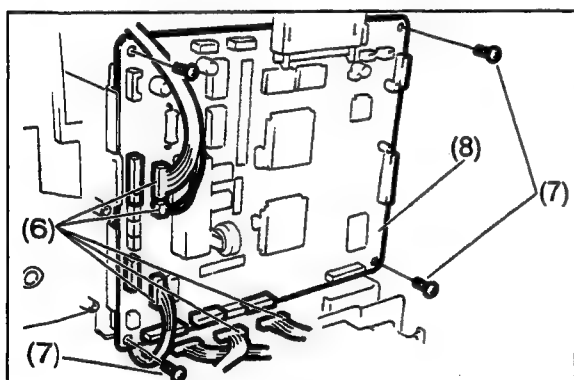
## 2.14 High Voltage Power Supply (HVPS) (506), Low Voltage Power Supply (LVPS) (513), FCB PC Board (510)



- (1) One **Screw** (19)
- (2) Pull out the **High Voltage Power Supply (HVPS)** (506).
- (3) Disconnect connector CN39.

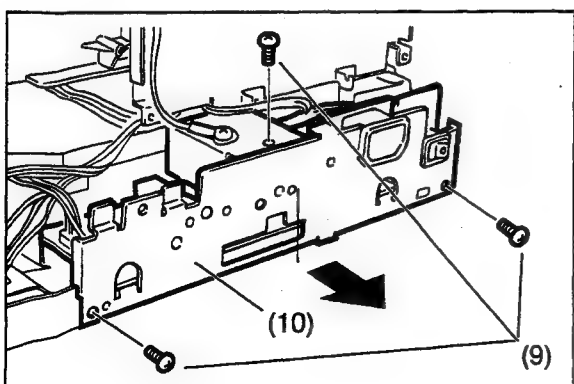


- (4) One **Screw** (19)
- (5) Remove the **High Voltage Terminal Cover** (503).



- (6) Disconnect all connectors on the FCB PC Board.
- (7) Four **Screws** (C8)
- (8) Remove the **FCB PC Board** (510).

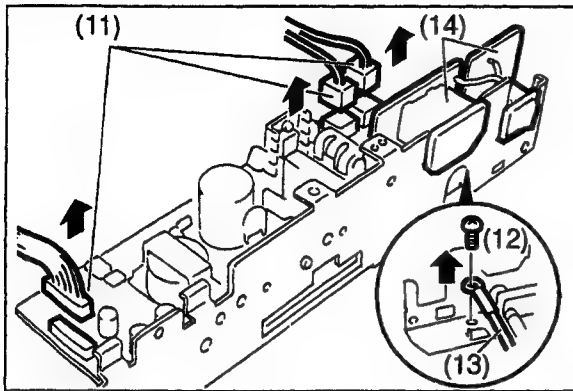
**Note:** Remove the Memory Card Guide from the FCB PCB before sending in for repair.



- (9) Three **Screws** (19)
- (10) Pull out the **Low Voltage Power Supply Assembly**.

Continued on the next page.



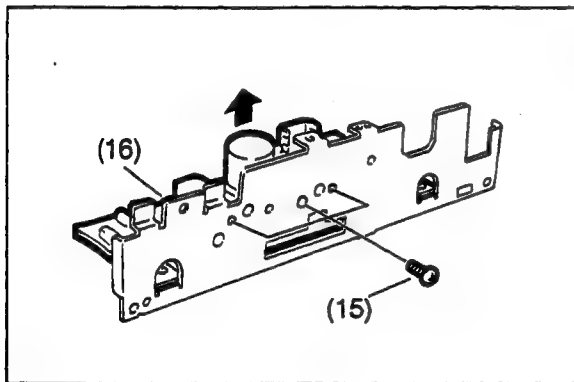


(11) Disconnect three connectors CN33, 34 and 35.

(12) One **Screw** (35)

(13) Remove the Ground Cable.

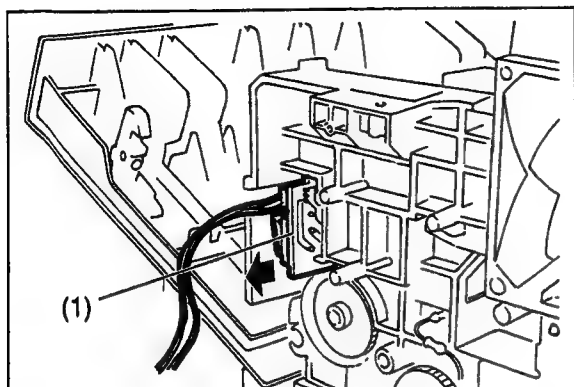
(14) Remove the **AC Inlet Assembly** (514).



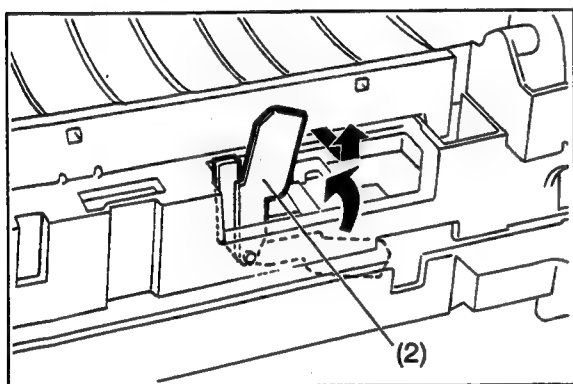
(15) Three **Screw** (19)

(16) Remove the **Low Voltage Power Supply (LVPS)** (513).

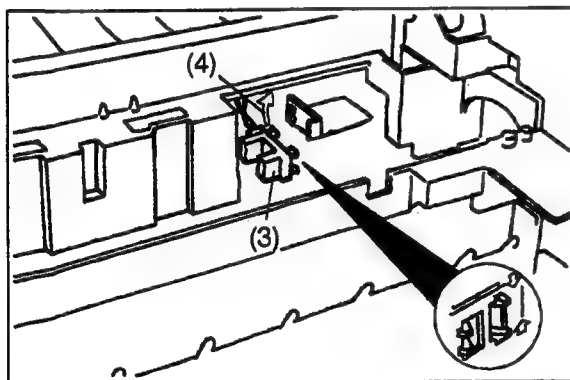
## 2.15 Printer Cover Switch (621), No Paper Sensor (610), Magnet Catch (730)



(1) Remove the **Printer Cover Switch** (621).

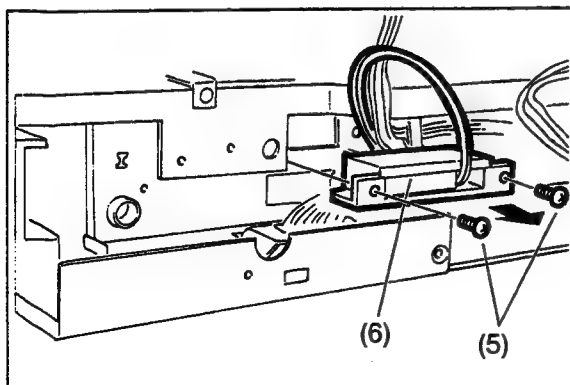


(2) Remove the **No Paper Sensor Actuator** (609).



(3) Remove the **No Paper Sensor** (610).































(4) Pull out the **No Paper Sensor** from the rear, and disconnect connector.



(5) Two **Screws** (19)

(6) Remove the **Magnet Catch** (730).

## 2.16 Screw Identification Template

Ref No.	Part No.	Figure	Remark
5Y	XUC4	   	
5Z	XUC6	   	
652	DZPK000001	   	
4N	XSN3+W8FC	   	
CB	XTW3+8SFC	   	
7B	XTB26+6J	   	
19	XTB3+8J	   	
B1	DZPA000001	   	
9H	XTN26+6J	   	
1Y	XTB3+10J	   	
11	XYN3+F12	   	
1Q	XYN3+F10	   	
23	XYN3+F8	   	
B5	XSB4+10BN	   	
35	XYN4+F6	   	

## **Chapter 3**

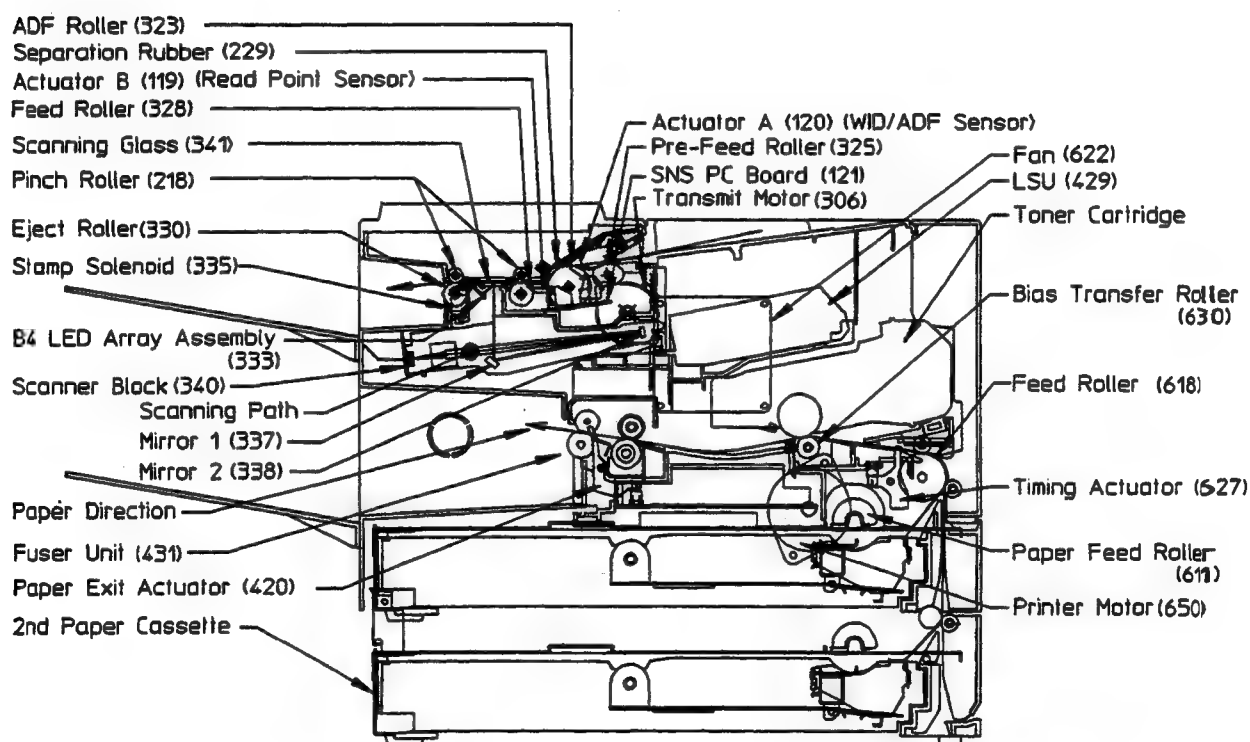
# **Maintenance, Adjustments and Check Points**

### 3.1 Required Tools

No.	Tool	No.	Tool
1	Soft Cloth	6	Pliers
2	Isopropyl Alcohol	7	Cotton Swab
3	Phillips Screwdriver (#2)	8	Brush
4	Blade-tip Screwdriver (3/32 in)	9	KS-660 - Conductive Grease
5	Tweezers	10	IC Extractor
		11	Allen Key Wrench (1.5 mm, 0.06 in)

**Note:** For reference, KS-660 is manufactured by SHIN-ETSU SILICONES OF AMERICA.

### 3.2 Periodic Maintenance Points



### 3.3 Periodic Maintenance Check List

The chart outlined below is a general guideline for maintenance. The example list is for an average usage of 50 transmitted and received documents per day. Needless to say, the environmental conditions and actual use will vary these factors.

The chart below is for reference only

	Cleaning		Replacement/Adjustment	
	Cycle	Method	Cycle	Method
ADF Roller	3 months	Page 2-8	3-5 years (30,000 documents)	Page 2-11
Separation Rubber	3 months	Page 2-5	1-3 years (10,000 documents)	Page 2-5
Pre-Feed Roller	3 months	Page 2-8	3-5 years (30,000 documents)	Page 2-11
Mirrors	12 months	Page 2-10	-	Page 2-10
Verification Stamp	-	-	5,000 documents	Page 2-12
Feed Roller	3 months	-	3-5 years (30,000 documents)	Page 2-11
Transmit Motor	-	-	5 years	Page 2-13
Scanning Glass	3 months	Page 2-5	-	Page 2-5
Eject Roller	3 months	-	3-5 years (30,000 documents)	Page 2-11
Latch	12 months	-	-	-
Toner Cartridge	-	-	10,000 pages *	-
Feed Roller	12 months or 10,000 documents	Alcohol		Page 2-21
Bias Transfer Roller	12 months or 10,000 documents	-	30,000 documents	Page 2-15
Fuser Unit	When replacing Print Cartridge	Cleaning chart	50,000 documents	Page 2-16
Paper Feed Roller	12 months or 10,000 documents	Alcohol	30,000 documents	Page 2-21
Fuser Lamp	-	-	50,000 documents or 2-5 years	Page 2-16
Fuser Roller	12 months or 10,000 documents	Alcohol	-	Page 2-18
Pressure Roller	12 months or 10,000 documents	Alcohol	-	Page 2-19
Fan	-	-	3-5 years	Page 2-22
Printer Motor	-	-	5 years	Page 2-20

\* Note : with ITU-T Image No.1, Standard resolution, by Multi-Copy

### **3.4 Program ROMs**

#### **3.4.1 Replacement Procedure**

(ROM is mounted on the FCB PCB.)

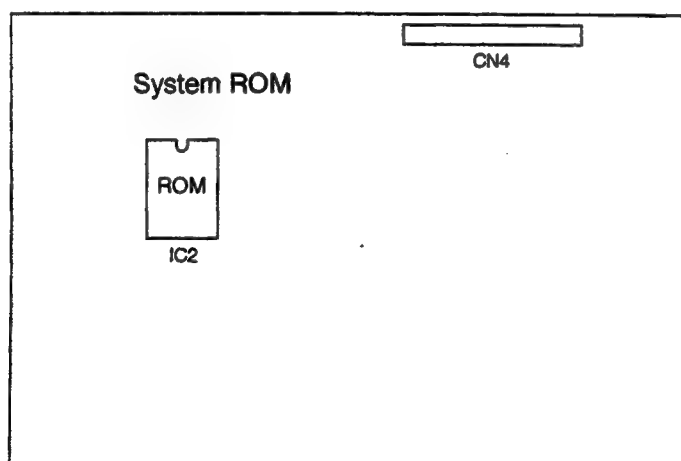
- (1) Before replacing ROM, print out the current Fax Parameter and Function Parameter settings.
- (2) Turn the Power Switch "Off".
- (3) Remove the Battery Cover.
- (4) Remove the ROM with an IC Extractor or an equivalent tool.



IC Extractor

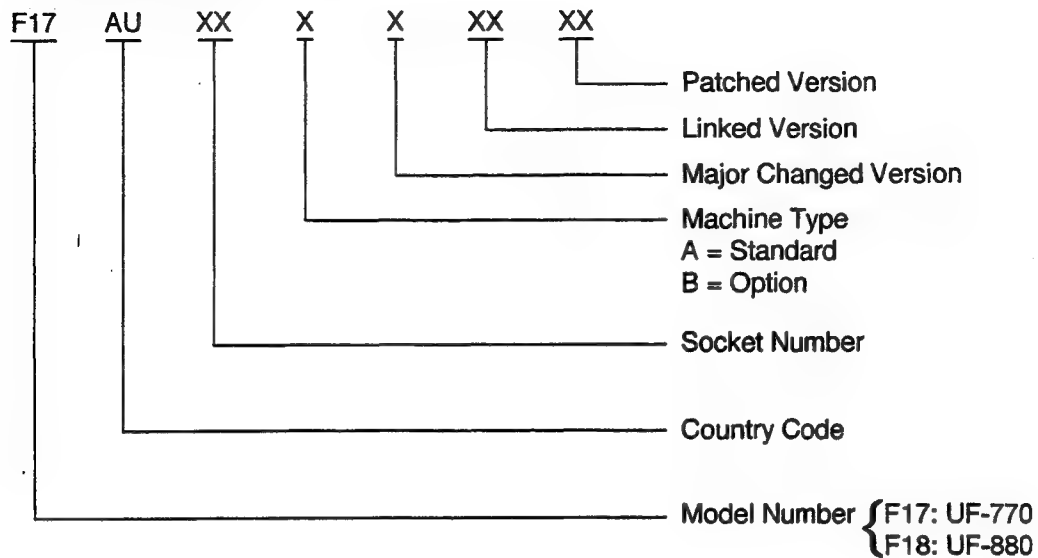
- (5) Insert new ROM.
- (6) Re-install the Battery Cover.
- (7) Perform Test Mode No.6-Parameter Initialization.
- (8) Reprogram the Fax Parameters and Function Parameters per previous print out if they were other than Factory settings.

#### **3.4.2 ROM Location**



### 3.4.3 ROM Label (Example: F17AURCA00500/UF-770, F18AURCA00500/UF-880)

● Software for System Control

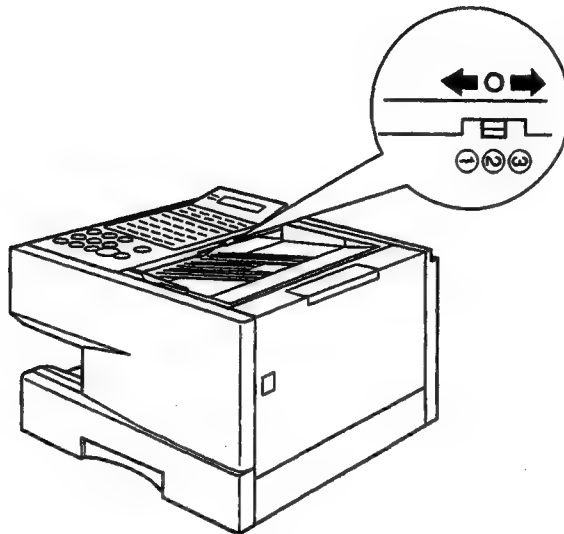


**Note:** Patched versions will be incremented in order, when the software is modified. When a Linked version is incremented, the patched version will be reset to "00".



### 3.5 ADF Pressure

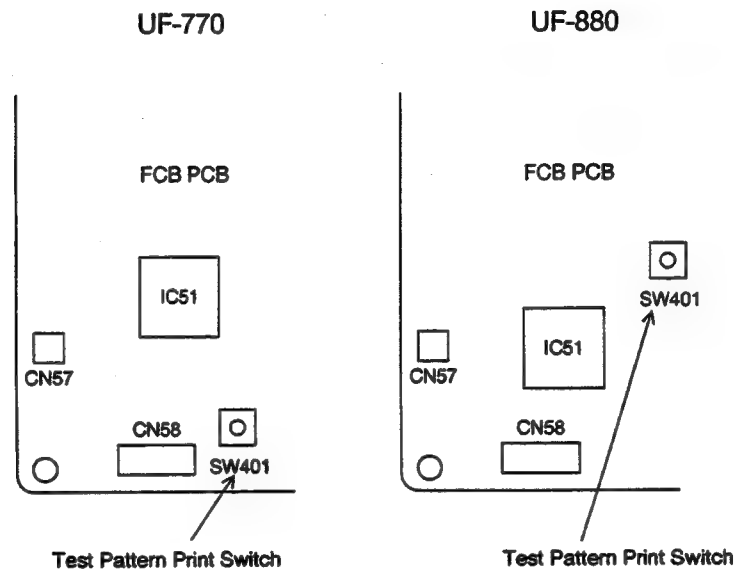
- When the document is multi-feeding, move the Pressure Adjusting Lever to the 3(H) position.
- When the document does not feed properly, move the Pressure Adjusting Lever to the 1(L) position.



Position	Pressure of separator	Situation
1(L)	Low	When the document misfeeds
2(M)	Medium	Normal position (Factory set position)
3(H)	High	When the document multi-feeds

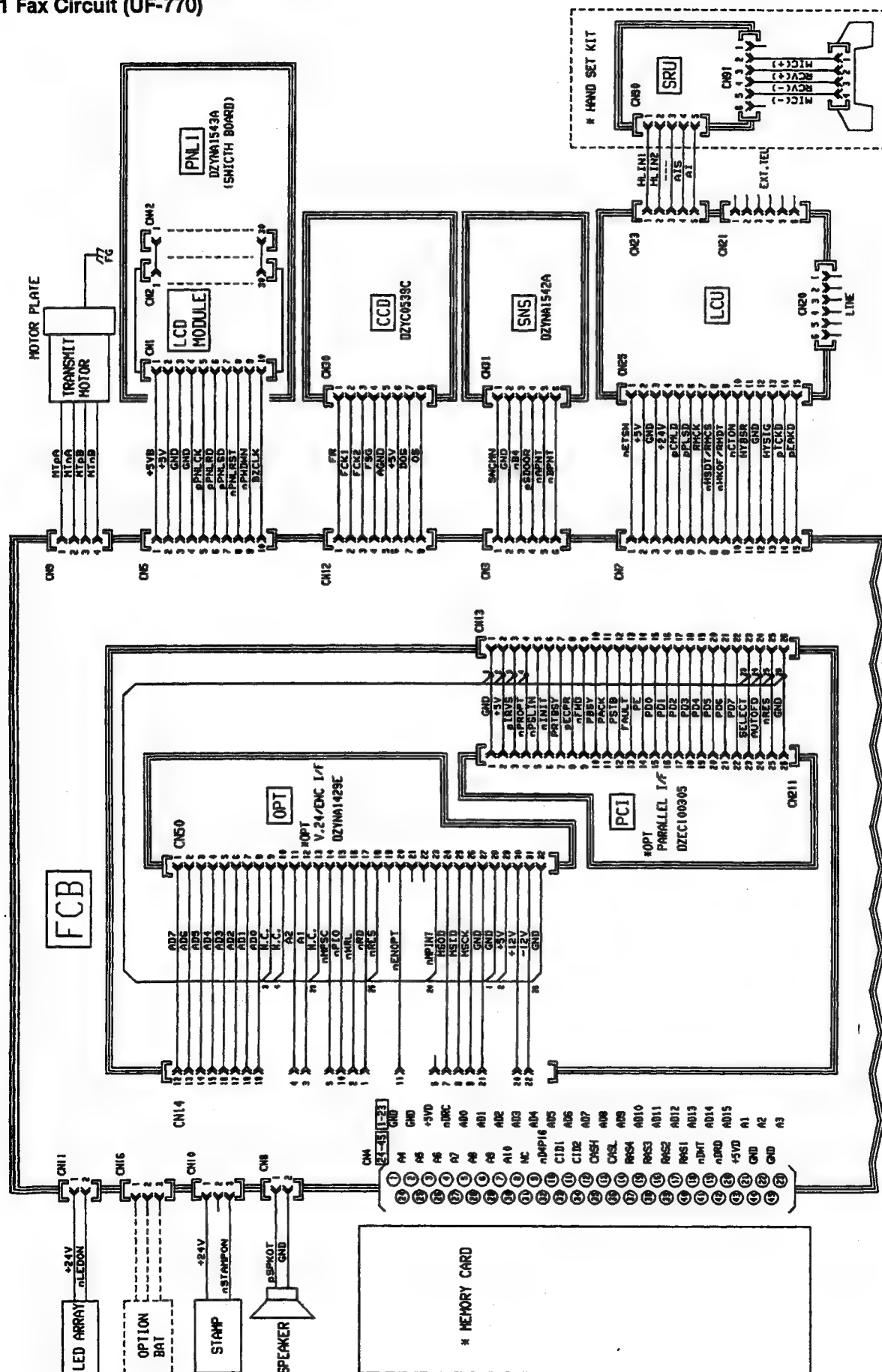
### 3.6 Printer Unit Test

- (1) You can check the printer with the LCU PCB, Control Panel and Scanner Block disconnected in the unit (Sections 2.5 and 2.6)
- (2) Press the Test Pattern Print Switch (SW401) on the FCB PCB as shown below.



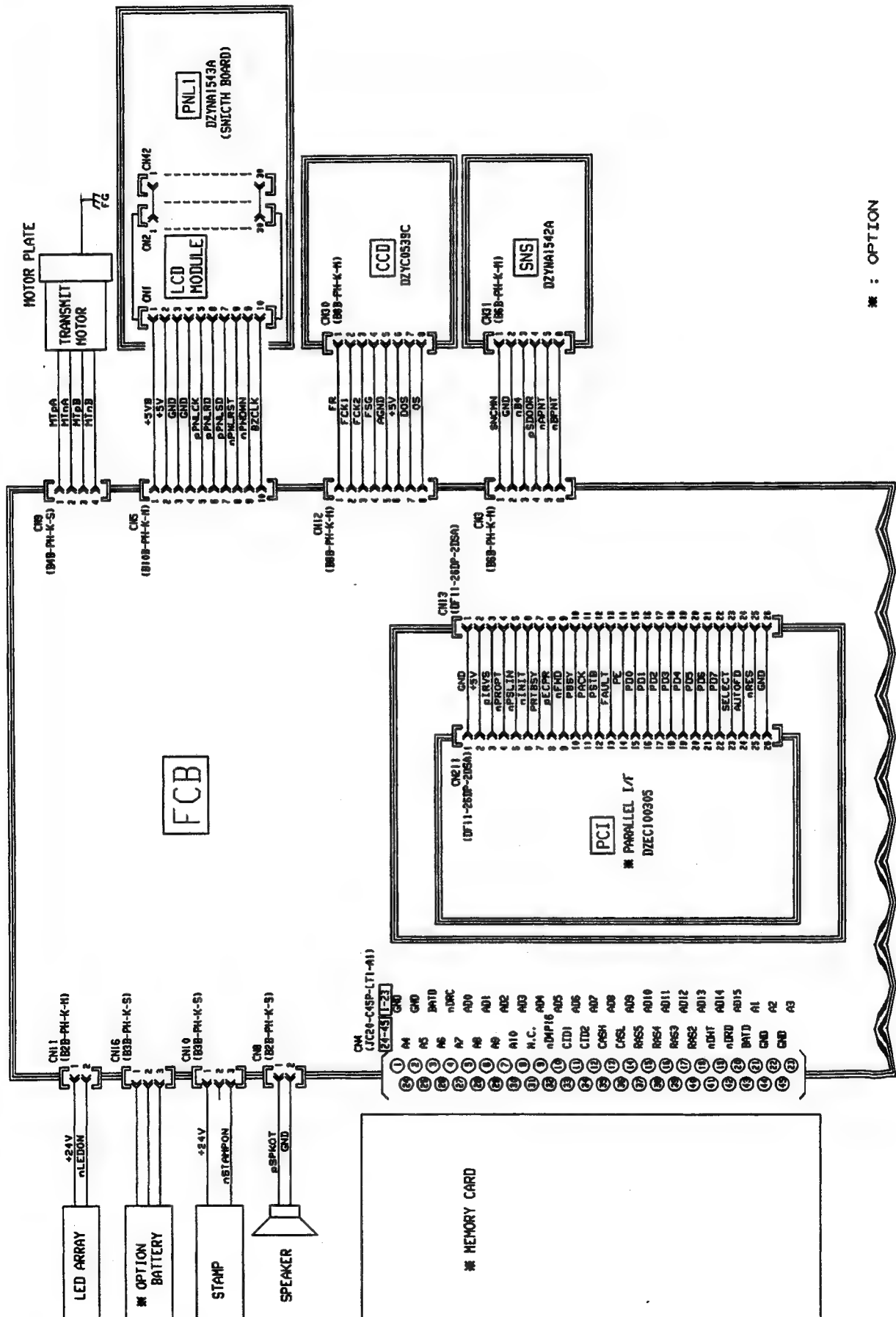
	Pattern	Selection method	Stop method
<b>Pattern 0</b>	1-dot Horizontal line	Switch ON for less than 2 seconds	Switch ON again
<b>Pattern 1</b>	Blank page	Switch ON for 2 seconds or more	Switch ON again

- (3) The Test Pattern prints. Check the print Quality.



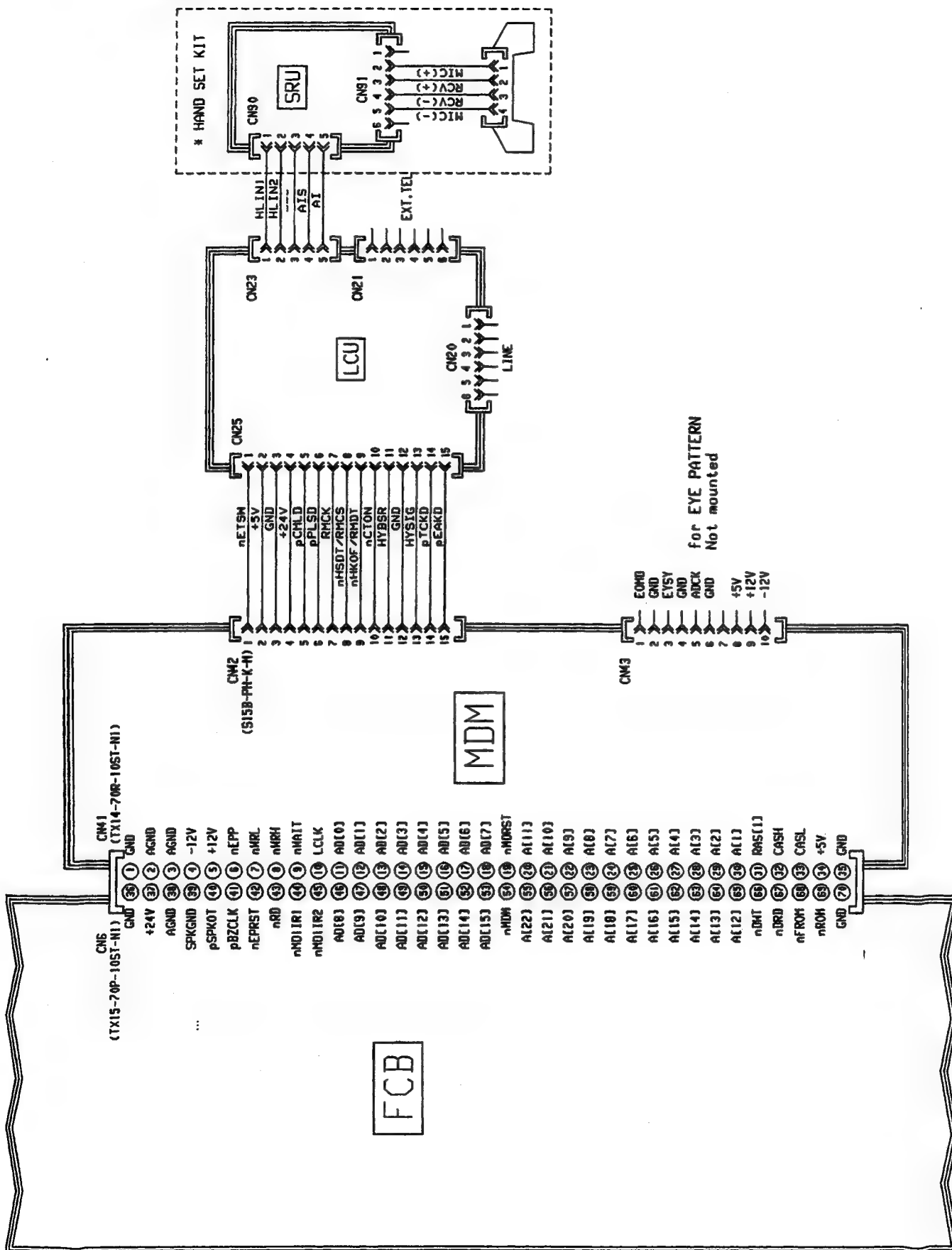
### 3.7 General Circuit Diagrams

#### 3.7.1.2 Fax Circuit (UF-880: 1/2)

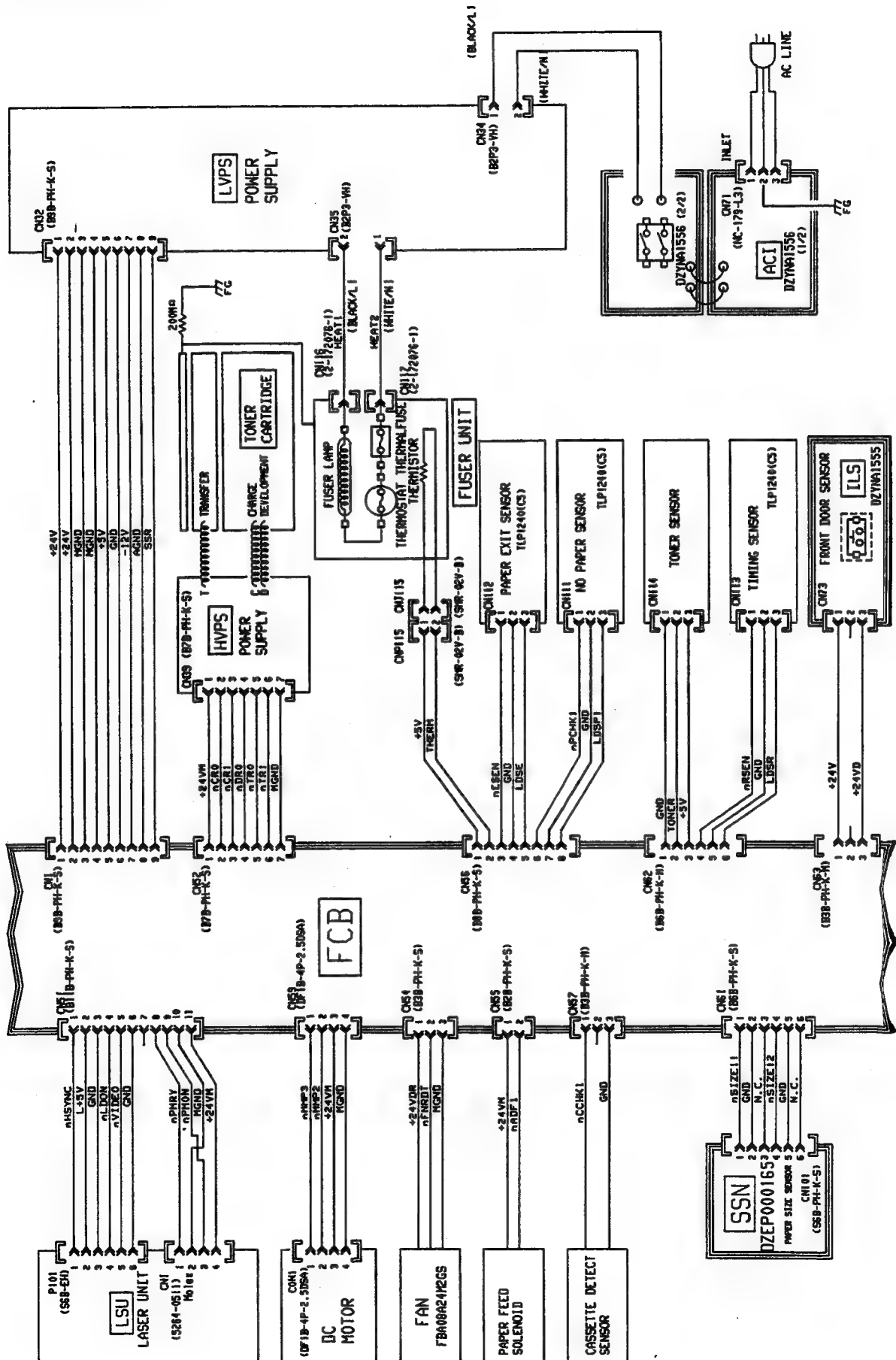


## 3.7 General Circuit Diagrams

### 3.7.1.3 Fax Circuit (UF-880: 2/2)

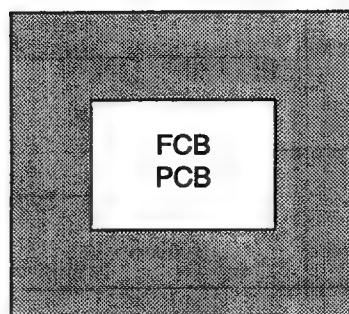


## 3.7.2 Printer Circuit

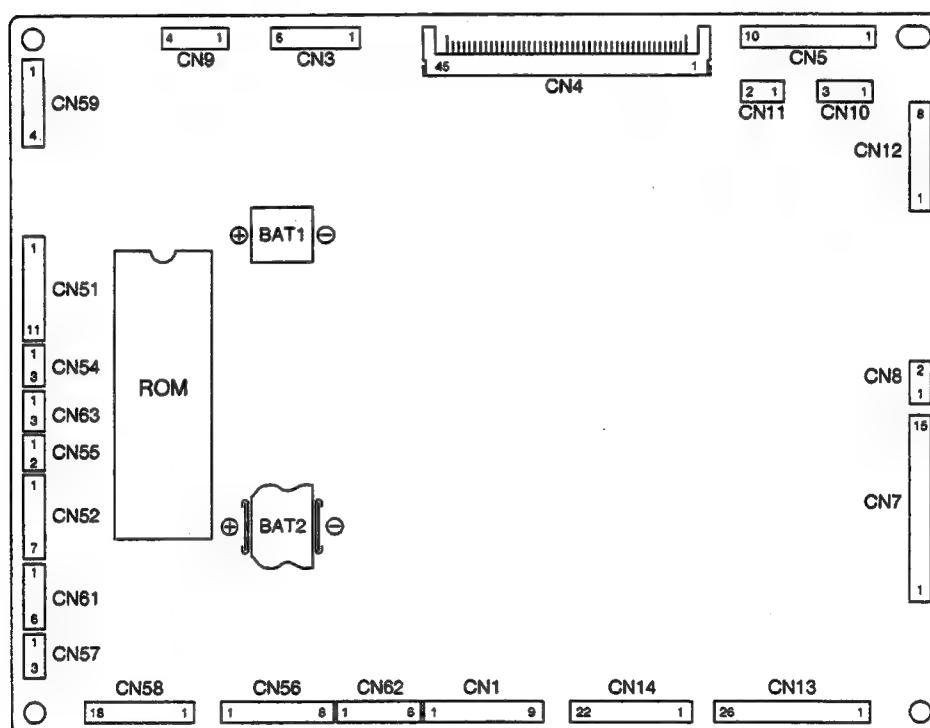




## 3.8.1 FCB PCB (UF-770)



Back Side View

**Nickel-Cadmium Battery**

The Nickel-Cadmium Battery (BAT1, BAT2), under various state and local laws is recyclable and it may be illegal to dispose of the battery into municipal waste streams. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

**WARNING**







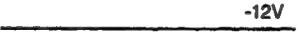


The batteries in this equipment must only be replaced by qualified personnel. When necessary, contact your local Panasonic supplier.

**CAUTION**

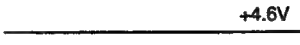

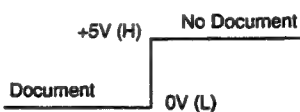
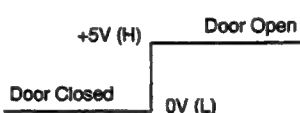
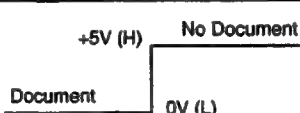
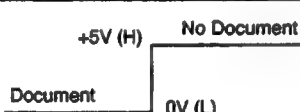
Danger of explosion if batteries are incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the above instructions.







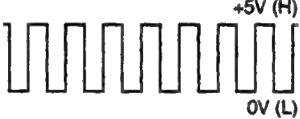
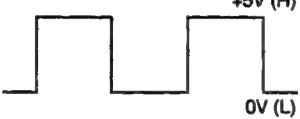



CN1

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	+24V	LVPS CN32-1		+24 VDC Power Supply
2	+24V	LVPS CN32-2		+24 VDC Power Supply
3	MGND	LVPS CN32-3		Ground
4	MGND	LVPS CN32-4		Ground
5	+5V	LVPS CN32-5		+5 VDC Power Supply
6	GND	LVPS CN32-6		Ground
7	-12V	LVPS CN32-7		-12 VDC Power Supply
8	GND	LVPS CN32-8		Ground
9	SSR	LVPS CN32-9		Fuser Lamp Control Signal




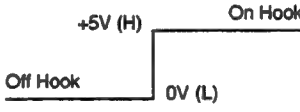
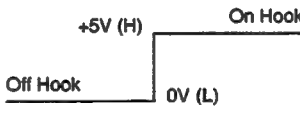

## CN3

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	SNCMN	SNS PCB CN31-1		+4.6V VDC Power Supply
2	GND	SNS PCB CN31-2		Ground
3	nB4	SNS PCB CN31-3		B4 Size Document Detection on ADF
4	pSDOOR	SNS PCB CN31-4		Tx Door Open Detection
5	nAPNT	SNS PCB CN31-5		ADF Document Detection
6	nBPNT	SNS PCB CN31-6		Read Point Document Detection

## CN5

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	+5VB	PNL1 PCB CN1-1		+5 VDC Power Supply
2	+5V	PNL1 PCB CN1-2		+5 VDC Power Supply
3	GND	PNL1 PCB CN1-3		Ground
4	GND	PNL1 PCB CN1-4		Ground
5	pPNLCK	PNL1 PCB CN1-5		Serial Data Transfer Clock
6	pPNLRD	PNL1 PCB CN1-6		Reception Data
7	pPNLSD	PNL1 PCB CN1-7		Transmission Data
8	nPNLRST	PNL1 PCB CN1-8		Panel Reset Signal (Reset by 0V)
9	nPWDWN	PNL1 PCB CN1-9		+5 VDC Power Down Signal
10	BZCLK	PNL1 PCB CN1-10		Buzzer Clock



**CN7 (1/2)**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	nETSW	LCU PCB CN 25-1		Not Used
2	+5V	LCU PCB CN 25-2		+5 VDC Power Supply
3	GND	LCU PCB CN 25-3		Ground
4	+24V	LCU PCB CN 25-4		+24 VDC Power Supply
5	pCMLD	LCU PCB CN 25-5	H=FAX Side, L= Telephone Side	Line Switching Relay Drive
6	pPLSD	LCU PCB CN 25-6	H=Make, L=Break	Pulse Dial Relay Drive
7	RMCK	LCU PCB CN 25-7		Not Used
8	nHSDT/RMCS	LCU PCB CN 25-8		Handset Off-Hook Detection Signal
9	nHKOF/RMDT	LCU PCB CN 25-9		External Phone Off-Hook Detection Signal (Phone Line must be connected)
10	nCTON	LCU PCB CN 25-10	H=Standby Mode, L=Ring in	Ring Detection Signal
11	HYBSR	LCU PCB CN 25-11		Line Transformer Input Signal
12	GND	LCU PCB CN 25-12		Ground
13	HYSIG	LCU PCB CN 25-13		Not Used



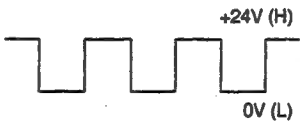
## CN7 (2/2)

Pin No.	Signal Name	Destination	Signal Waveform	Function
14	pTCKD	LCU PCB CN 25-14		Not Used
15	pEAKD	LCU PCB CN 25-15		Not Used


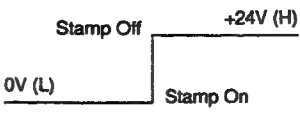
## CN8

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	pSPKOT	Speaker		Line Signal, Key Tone, Ringer
2	GND	Speaker		Ground

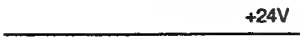
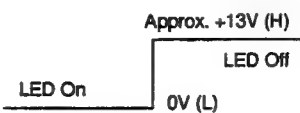
## CN9

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	MTpA	Transmit Motor		Stepping Signal
2	MTnA	Transmit Motor		Stepping Signal
3	MTpB	Transmit Motor		Stepping Signal
4	MTnB	Transmit Motor		Stepping Signal

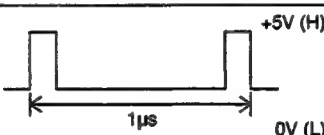
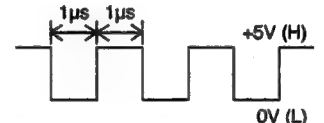
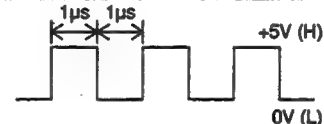
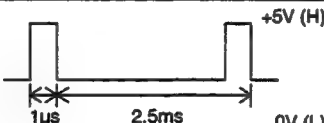



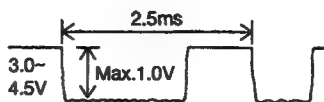
## CN10

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	+24V	Stamp Solenoid		+24 VDC Power Supply
2	NC	Stamp Solenoid		Not Connected
3	nSTAMPON	Stamp Solenoid		Stamp Drive Signal

**CN11**














Pin No.	Signal Name	Destination	Signal Waveform	Function
1	+24V	LED Array		+24 VDC Power Supply
2	nLEDON	LED Array		LED Enable Signal

**CN12**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	FR	CCD PCB CN30-1		Reset Signal
2	FCK1	CCD PCB CN30-2		Shift Register Clock1
3	FCK2	CCD PCB CN30-3		Shift Register Clock2
4	FSG	CCD PCB CN30-4		Data Transfer Enable Signal
5	AGND	CCD PCB CN30-5		Analog Ground
6	+5V	CCD PCB CN30-6		Output Block Drain Voltage
7	DOS	CCD PCB CN30-7		Compensation Signal (Analog Signal)
8	OS	CCD PCB CN30-8		Video Signal

## CN13 (1/2)

[ (1) : Printer Interface, (2) PC Interface ]

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	GND	PCI PCB CN 211-1		Ground
2	+5V	PCI PCB CN211-2		+5 VDC Power Supply
3	pIRVS	PCI PCB CN211-3		nINIT Control Signal
4	nPROPT	PCI PCB CN211-4		Option Detect Signal
5	nPSLIN	PCI PCB CN211-5		(1) Printer Select Signal (2) Active Signal (IEEE 1284 Active)
6	nINIT	PCI PCB CN211-6		Input Prime Signal
7	PRTBSY	PCI PCB CN211-7		(1) Not Used (2) Data Bit
8	pECPR	PCI PCB CN211-8		ECP Reverse Control Signal
9	nFWD	PCI PCB CN211-9		Parallel Data Direction Control Signal
10	PBSY	PCI PCB CN211-10		(1) Busy (2) Print Busy
11	PACK	PCI PCB CN211-11		(1) Acknowledge (2) Printer Clock
12	PSTB	PCI PCB CN211-12		(1) Data Strobe (2) Host Clock
13	FAULT	PCI PCB CN211-13		(1) Printer Error (2) _____



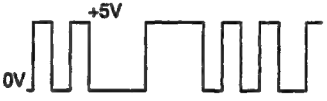





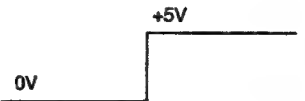

## CN13 (2/2)

[ (1) : Printer Interface, (2) PC Interface ]





Pin No.	Signal Name	Destination	Signal Waveform	Function
14	PE	PCI PCB CN211-14		(1) Printer out of Paper (2) Data bit 2.6 or Ack Data Request
15	PD0	PCI PCB CN211-15		Data Signal
16	PD1	PCI PCB CN211-16		Data Signal
17	PD2	PCI PCB CN211-17		Data Signal
18	PD3	PCI PCB CN211-18		Data Signal
19	PD4	PCI PCB CN211-19		Data Signal
20	PD5	PCI PCB CN211-20		Data Signal
21	PD6	PCI PCB CN211-21		Data Signal
22	PD7	PCI PCB CN211-22		Data Signal
23	SELECT	PCI PCB CN211-23		(1) Printer On Line (2) Data bit 1.5 (IEEE 1284 x Flag Signal)
24	AUTOFD	PCI PCB CN211-24		(1) Auto Return Signal (2) Host Busy
25	nRES	PCI PCB CN211-25		Reset Signal
26	GND	PCI PCB CN211-26		Ground




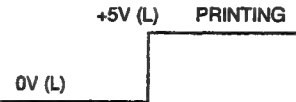

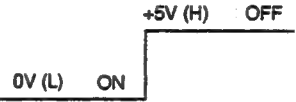


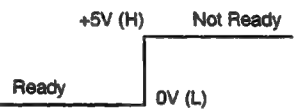
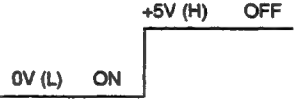


## CN14 (1/2)

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	nRD	OPT CN50-17		read Signal for MPSC,PPI
2	nWRL	OPT CN50-16		Write Signal for MPSC,PPI
3	A1	OPT CN50-12		Address Signal
4	A2	OPT CN50-11		
5	nMPSC	OPT CN50-14		Chip Select Signal for MPSC
6	N.C.	Not Used		
7	MSOD	OPT CN50-24		Serial TX Data Signal
8	MSID	OPT CN50-25		Serial RX Data Signal
9	MSCK	OPT CN50-26		Data Clock
10	nPIO	OPT CN50-15		Chip Select Signal for PPI
11	nENOPT	OPT CN50-20		Option Detect Signal
12	AD7	OPT CN50-1		Data Signal
13	AD6	OPT CN50-2		

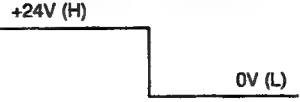

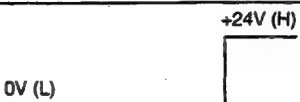



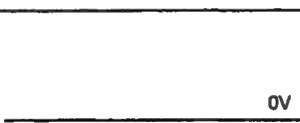
## CN14 (2/2)

Pin No.	Signal Name	Destination	Signal Waveform	Function
14	AD5	OPT CN50-3		Data Signal
15	AD4	OPT CN50-4		
16	AD3	OPT CN50-5		
17	AD2	OPT CN50-6		
18	AD1	OPT CN50-7		
19	AD0	OPT CN50-8		
20	+12V	OPT CN50-30		+12V
21	GND	OPT CN50-27		Ground
22	-12V	OPT CN50-31		-12V

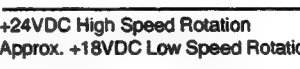
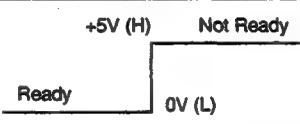
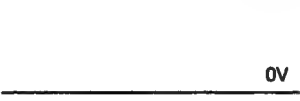
## CN51

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	nHSYNC	LSU P101-1		H-SYNC Video Signal
2	L +5V	LSU P101-2		+5V Power Supply for Laser Drive Circuit
3	GND	LSU P101-3		Ground
4	nLDON	LSU P101-4		Laser Control Signal
5	nVIDEO	LSU P101-5		Video Data L=Black, H=White
6	GND	LSU P101-6		Ground
7	nPMCK			Not Used
8	nPMRY	LSU CN1-1		Polygon Motor Ready Signal
9	nPMON	LSU CN1-3		Polygon Motor Control Signal
10	MGND	LSU CN1-2		Frame Ground
11	+24VM	LSU CN1-4		+24 VDC Power Supply

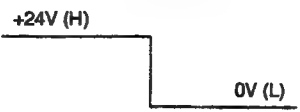

**CN52**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	+24VM	HVPS CN39-1		+24 VDC Power Supply
2	nCR0	HVPS CN39-2		Charge Control AC Output
3	nCR1	HVPS CN39-3		Charge Control DC Output
4	nDR0	HVPS CN39-4		Development Control AC+DC Output
5	nTR0	HVPS CN39-5		Transfer Control Cleaning Output
6	nTR1	HVPS CN39-6		Transfer Control Transfer Output
7	MGND	HVPS CN39-7		Ground


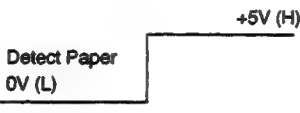



**CN54**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	+24VDR	Fan		Fan Control Signal
2	nFNRTD	Fan		Fan Ready Signal
3	MGND	Fan		Ground

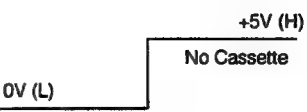

**CN55**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	+24VM	Paper Feed Solenoid		+24 VDC Power Supply
2	nADF1	Paper Feed Solenoid		Paper Feed Roller Solenoid Control Signal






**CN56**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	+5V	Thermistor CN115-1		+5 VDC Power Supply
2	THERM	Thermistor CN115-2	Analog Signal	Fuser Thermistor Voltage Level Signal
3	nESEN	Paper Exit Sensor CN112-1		Paper Exit Sensor Detection Signal
4	GND	Paper Exit Sensor CN112-2		Ground
5	LDSE	Paper Exit Sensor CN112-3	Approx. +2 VDC	Paper Exit Sensor LED Drive Current
6	nPCHK1	No Paper Sensor CN111-1		No Paper Detection Signal
7	GND	No Paper Sensor CN111-2		Ground
8	LDSP1	No Paper Sensor CN111-3	Approx. +2 VDC	No Paper Sensor LED Drive Current


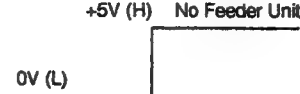

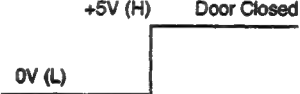


**CN57**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	nCCHK1	Cassette Detect Sensor		No Cassette Detection Signal
2	NC			Not Connected
3	GND	Cassette Detect Sensor		Ground




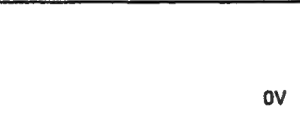
**CN58 (1/2)**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	nSDO	CST2 CN81-1		500 Sheets Cassette I/F TX DATA
2	nSDI	CST2 CN81-2		500 Sheets Cassette I/F RX DATA
3	nSCK	CST2 CN81-3		500 Sheets Cassette I/F CLOCK
4	pOPRST	CST2 CN81-4		500 Sheets Cassette Reset
5	MGND	CST2 CN81-5		Ground
6	MGND	CST2 CN81-6		Ground
7	+24V	CST2 CN81-7		+24 VDC Power Supply
8	+24VM	CST2 CN81-8		+24 VDC Power Supply
9	+5V	CST2 CN81-9		+5 VDC Power Supply





## CN58 (2/2)

Pin No.	Signal Name	Destination	Signal Waveform	Function
10	GND	CST2 CN81-10	 0V	Ground
11	nOP	CST2 CN81-11	 +5V (H) No Feeder Unit 0V (L)	250 sheets Feeder Unit Detection Signal
12	pADF2	CST2 CN81-12	 +5V (H) ON 0V (L)	Feed Roller Drive Clutch Control Signal (250 sheets Cassette)
13	nPDOR2	CST2 CN81-13	 +5V (H) Door Closed 0V (L)	Jam Cover Sensor Detection Signal
14	nPCHK2	CST2 CN81-14	 +5V (H) No Paper 0V (L)	No Paper Detection Signal (250 sheets Cassette)
15	nSIZE23	CST2 CN81-15		Not Used
16	nCCHK2	CST2 CN81-16	 +5V (H) No Cassette 0V (L)	No Cassette Detection Signal (250 sheets Cassette)
17	nSIZE22	CST2 CN81-17		Same CN61
18	nSIZE21	CST2 CN81-18		Same CN61

**CN59**





Pin No.	Signal Name	Destination	Signal Waveform	Function
1	nMMP3	Printer Motor		Rotate Signal
2	nMMP2	Printer Motor		Motor Ready Signal
3	+24VM	Printer Motor		+24VDC Power Supply
4	MGND	Printer Motor		Ground

**CN61**


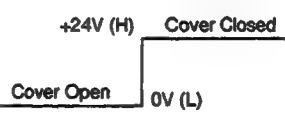
Pin No.	Signal Name	Destination	Signal Waveform	Function										
1	nSIZE11	SSN CN101-1		<table><tr><td>nSIZE11</td><td>L</td><td>H</td><td>L</td><td>H</td></tr><tr><td>nSIZE12</td><td>L</td><td>L</td><td>H</td><td>H</td></tr></table> <div style="text-align: center;"><p>↑      ↑      ↑</p><p>LTR   LGL   A4</p></div>	nSIZE11	L	H	L	H	nSIZE12	L	L	H	H
nSIZE11	L	H	L		H									
nSIZE12	L	L	H		H									
2	GND	SSN CN101-2												
3	N.C.													
4	nSIZE12	SSN CN101-4												
5	GND	SSN CN101-5												
6	N.C.													



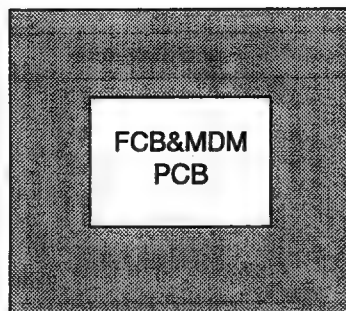
**CN62**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	GND	Toner Sensor CN114-1		Ground
2	TONER	Toner Sensor CN114-2	Analog Signal	Remaining Toner Level Signal
3	+5V	Toner Sensor CN114-3		+5 VDC Power Supply
4	nRSEN	Timing Sensor CN113-1		Timing Sensor Detection Signal
5	GND	Timing Sensor CN113-2		Ground
6	LDSR	Timing Sensor CN113-3	Approx.+2VDC	Timing Sensor LED Drive Current

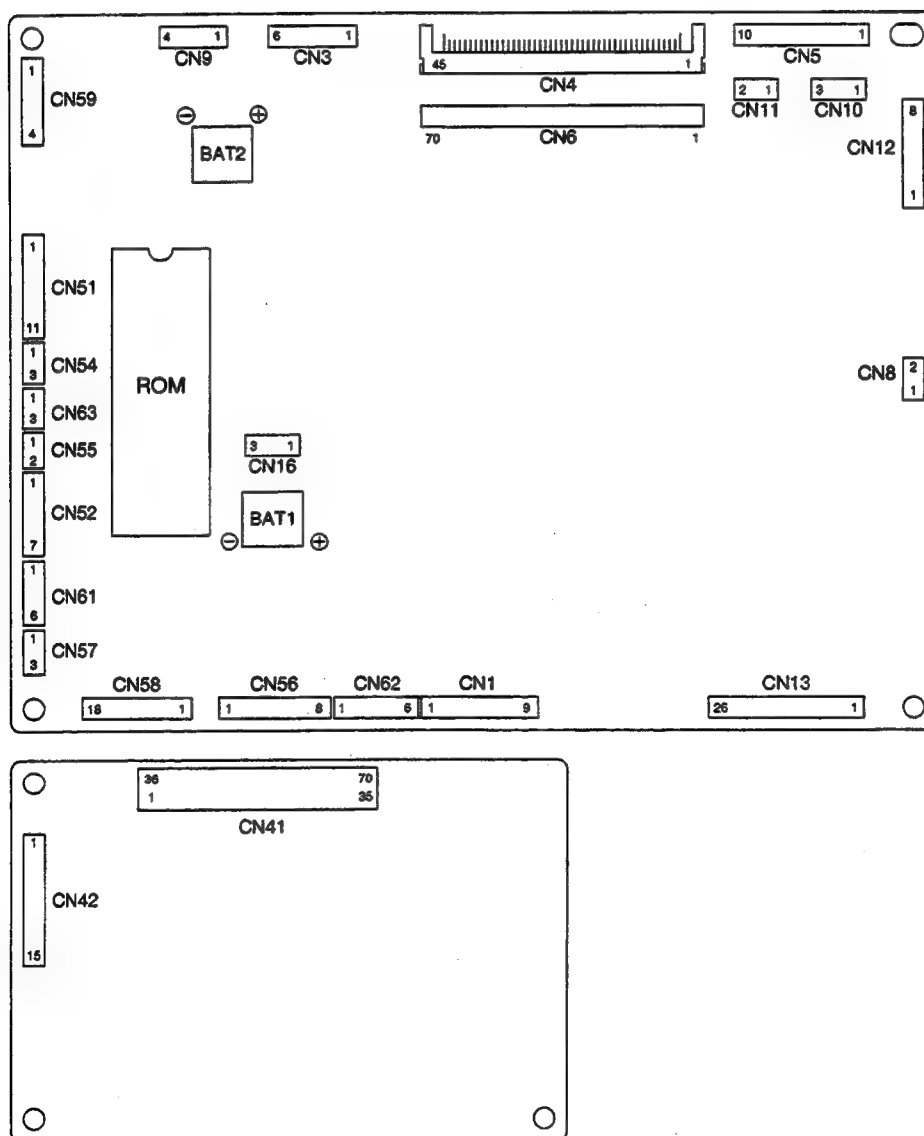
**CN63**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	+24V	ILS PCB CN73-1		+24 VDC Power Supply
2	NC			Not Connected
3	+24VD	ILS PCB CN73-3		Printer Cover Detection Signal

### 3.8.2 FCB PCB and MDM PCB (UF-880)











Back Side View



**CN1-63 :**

**Refer to 3.8.1, FCB PCB (UF-770).**









**CN6 (1/5)**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	GND	MDM CN41-1	 0V	Ground
2	AGND	MDM CN41-2		Analog Ground
3	AGND	MDM CN41-3		Analog Ground
4	-12V	MDM CN41-4	 -12V	-12VDC Power Supply
5	+12V	MDM CN41-5	 +12V	+12VDC Power Supply
6	nEPP	MDM CN41-6	 +5V (H) Select 0V (L)	EPP(IC13) Chip Select Signal
7	nWRL	MDM CN41-7	 +5V (H) Enable 0V (L) Disable	Write Enable Signal (L)
8	nWRH	MDM CN41-8		Write Enable Signal (H)
9	nWAIT	MDM CN41-9	 +5V (H) Data Wait 0V (L)	CPU Data Wait Control Signal
10	LCLK	MDM CN41-10	 +5V (H) 0V (L)	System Clock (16MHz)
11	AD[0]	MDM CN41-11	 +5V (H) 0V (L)	Data Bus [0]
12	AD[1]	MDM CN41-12		Data Bus [1]
13	AD[2]	MDM CN41-13		Data Bus [2]
14	AD[3]	MDM CN41-14		Data Bus [3]


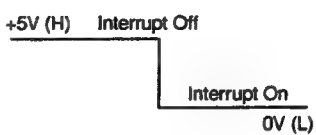


## CN6 (2/5)

Pin No.	Signal Name	Destination	Signal Waveform	Function
15	AD[4]	MDM CN41-15		Data Bus [4]
16	AD[5]	MDM CN41-16		Data Bus [5]
17	AD[6]	MDM CN41-17		Data Bus [6]
18	AD[7]	MDM CN41-18		Data Bus [7]
19	nMDRST	MDM CN41-19		MDM Reset Signal (Reset by 0V)
20	A[11]	MDM CN41-20		Address Bus [11]
21	A[10]	MDM CN41-21		Address Bus [10]
22	A[9]	MDM CN41-22		Address Bus [9]
23	A[8]	MDM CN41-23		Address Bus [8]
24	A[7]	MDM CN41-24		Address Bus [7]
25	A[6]	MDM CN41-25		Address Bus [6]
26	A[5]	MDM CN41-26		Address Bus [5]
27	A[4]	MDM CN41-27		Address Bus [4]
28	A[3]	MDM CN41-28		Address Bus [3]

## CN6 (3/5)

Pin No.	Signal Name	Destination	Signal Waveform	Function
29	A[2]	MDM CN41-29		Address Bus [2]
30	A[1]	MDM CN41-30		Address Bus [1]
31	RAS[1]	MDM CN41-31		Not Used
32	CASH	MDM CN41-32		Not Used
33	CASL	MDM CN41-33		Not Used
34	+5V	MDM CN41-34		+5VDC Power Supply
35	GND	MDM CN41-35		Ground
36	GND	MDM CN41-36		Ground
37	+24V	MDM CN41-37		+24VDC Power Supply
38	AGND	MDM CN41-38		Analog Ground
39	SPKGND	MDM CN41-39		Speker Ground
40	pSPKOT	MDM CN41-40		Line Signal, Key Tone, Ringer
41	pBZCLK	MDM CN41-41		Buzzer Clock
42	nEPRST	MDM CN41-42		EPP(IC13) Reset Signal (Reset by 0V)




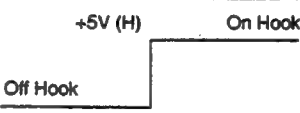
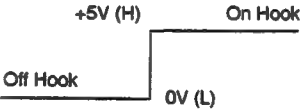

## CN6 (4/5)

Pin No.	Signal Name	Destination	Signal Waveform	Function
43	nRD	MDM CN41-43		Read Enable Signal
44	nMD1IR1	MDM CN41-44		MDM Interrupt Signal 1
45	nMD1IR2	MDM CN41-45		MDM Interrupt Signal 2
46	AD[8]	MDM CN41-46		Data Bus [8]
47	AD[9]	MDM CN41-47		Data Bus [9]
48	AD[10]	MDM CN41-48		Data Bus [10]
49	AD[11]	MDM CN41-49		Data Bus [11]
50	AD[12]	MDM CN41-50		Data Bus [12]
51	AD[13]	MDM CN41-51		Data Bus [13]
52	AD[14]	MDM CN41-52		Data Bus [14]
53	AD[15]	MDM CN41-53		Data Bus [15]
54	nMDM	MDM CN41-54		MDM Chip Select Signal
55	A[22]	MDM CN41-55		Not Used
56	A[21]	MDM CN41-56		Not Used

## CN6 (5/5)

Pin No.	Signal Name	Destination	Signal Waveform	Function
57	A[20]	MDM CN41-57		Not Used
58	A[19]	MDM CN41-58		Not Used
59	A[18]	MDM CN41-59		Not Used
60	A[17]	MDM CN41-60		Not Used
61	A[16]	MDM CN41-61		Not Used
62	A[15]	MDM CN41-62		Not Used
63	A[14]	MDM CN41-63		Not Used
64	A[13]	MDM CN41-64		Not Used
65	A[12]	MDM CN41-65		Not Used
66	nDWT	MDM CN41-66		Not Used
67	nDRD	MDM CN41-67		Not Used
68	nFROM	MDM CN41-68		Not Used
69	nROM	MDM CN41-69		Not Used
70	GND	MDM CN41-70	0V	Ground

## CN42 (1/2)

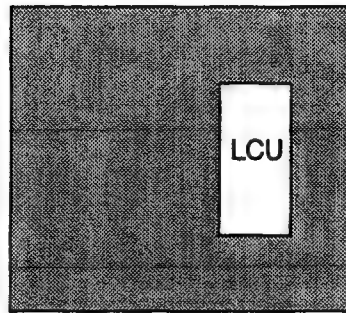
Pin No.	Signal Name	Destination	Signal Waveform	Function
1	nETSW	LCU PCB CN 25-1		Not Used
2	+5V	LCU PCB CN 25-2		+5V VDC Power Supply
3	GND	LCU PCB CN 25-3		Ground
4	+24V	LCU PCB CN 25-4		+24V VDC Power Supply
5	pCMLD	LCU PCB CN 25-5	H=FAX Side, L=Telephone Side	Line Switching Relay Drive
6	pPLSD	LCU PCB CN 25-6	H=Make, L=Break	Pulse Dial Relay Drive
7	RMCK	LCU PCB CN 25-7		Not Used
8	nHSDT/RMCS	LCU PCB CN 25-8		Handset Off-Hook Detection Signal
9	nHKOF/RMDT	LCU PCB CN 25-9		External Phone Off-Hook Detection Signal (Phone Line must be connected.)
10	nCTON	LCU PCB CN 25-10	H=Standby Mode, L=Ring in	Ring Detection Signal
11	HYBSR	LCU PCB CN 25-11		Line Transformer Input Signal
12	GND	LCU PCB CN 25-12		Ground
13	HYSIG	LCU PCB CN 25-13		Not Used



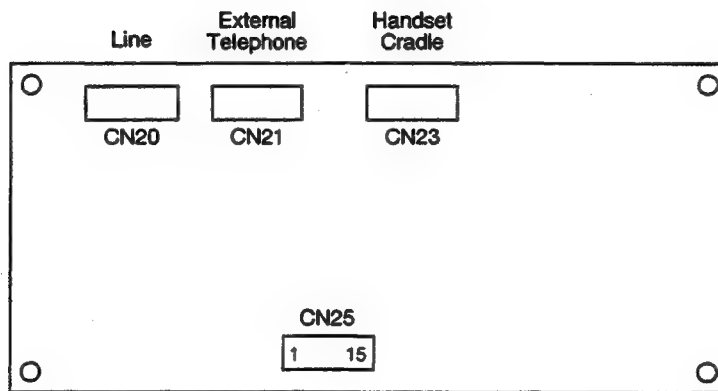
**CN42 (2/2)**

Pin No.	Signal Name	Destination	Signal Waveform	Function
14	pTCKD	LCU PCB CN25-14		Not Used
15	pEAKD	LCU PCB CN25-15		Not Used

### 3.9 LCU PCB



Back Side View



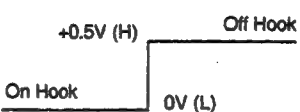

**CN20**

Pin No.	Signal Name	Destination	Signal Waveform	Function
3	L2 (T)	Telephone Line		Line Signal
4	L1 (R)	Telephone Line		Line Signal

**CN21**

Pin No.	Signal Name	Destination	Signal Waveform	Function
3	T1	External Telephone		Line Signal for the External Telephone
4	T2	External Telephone		Line Signal for the External Telephone

**CN23**

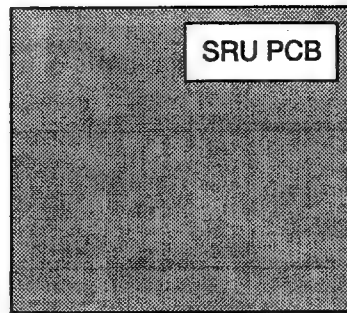
Pin No.	Signal Name	Destination	Signal Waveform	Function
1	HLIN1	SRU PCB CN90-1		Line Signal for the Fax Handset
2	HLIN2	SRU PCB CN90-2		Line Signal for the Fax Handset
3	NC	SRU PCB CN90-3		Not Connected
4	AIS	SRU PCB CN90-4		Switch Hook Signal
5	AI	SRU PCB CN90-5		Ground

**CN25**

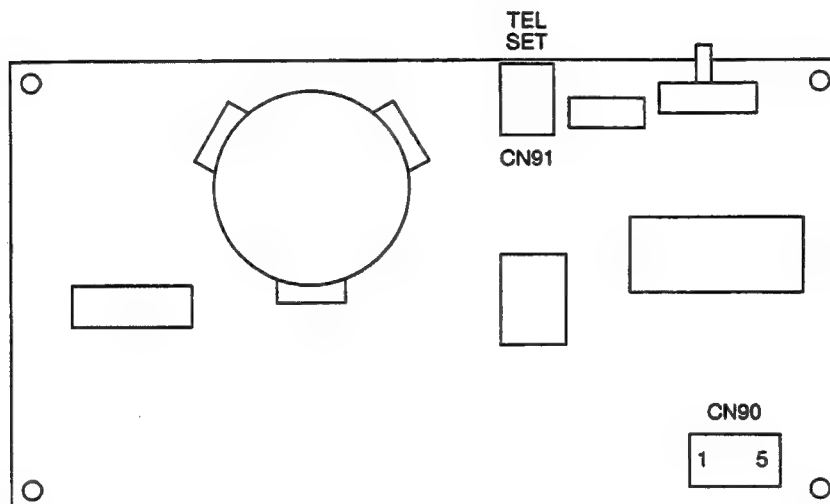
Refer to FCB PCB CN7. (UF-770)

Refer to FCB PCB CN42. (UF-880)


### **3.10 SRU PCB (Optional)**



**Back Side View**



**CN91**

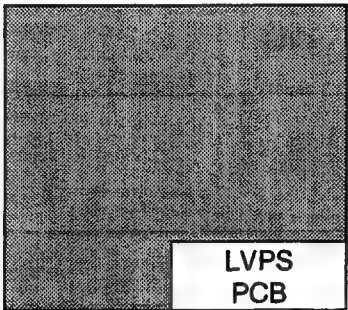
Pin No.	Signal Name	Destination	Signal Waveform	Function
1	NC			Not Connected
2	MIC (+)	Telephone Handset CN		Handset Microphone
3	RCV (+)	Telephone Handset CN		Handset Receiver
4	RCV (-)	Telephone Handset CN		Handset Receiver
5	MIC (-)	Telephone Handset CN		Handset Microphone
6	TGND			Ground

**CN90**

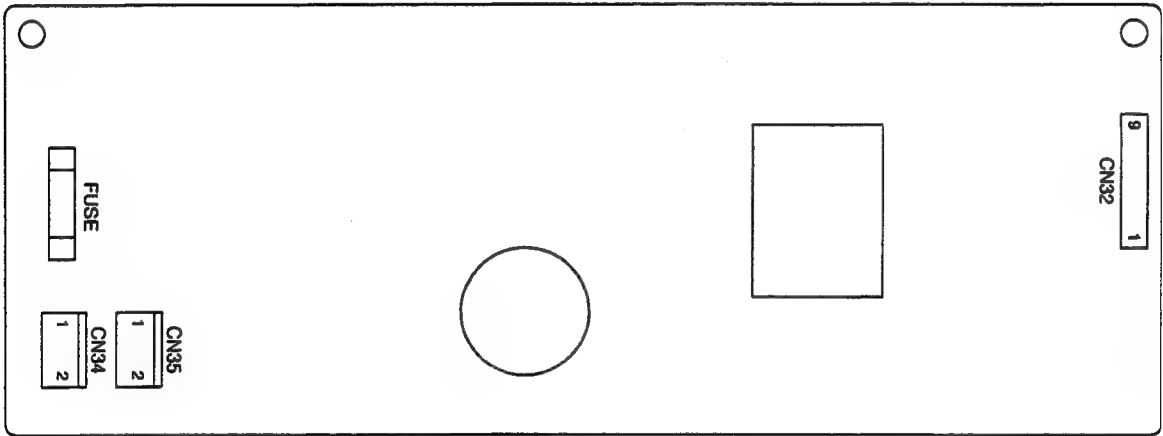
Refer to LCU PCB CN23.

3.11 Low Voltage Power Supply PCB (LVPS)

Top View



Back Side



**CN34**

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	LIVE	ACI PCB		AC Input (Live)
2	NEUTRAL	ACI PCB		AC Input (Neutral)

**CN35**

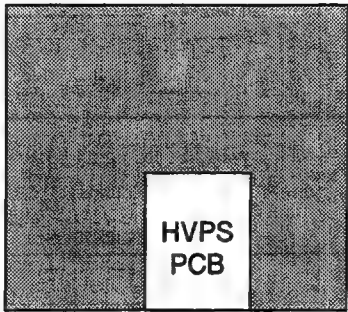
Pin No.	Signal Name	Destination	Signal Waveform	Function
1	HEAT1	Fuser Unit CN116		Fuser Lamp AC (Live)
2	HEAT2	Fuser Unit CN117		Fuser Lamp AC (Neutral)

**CN32**

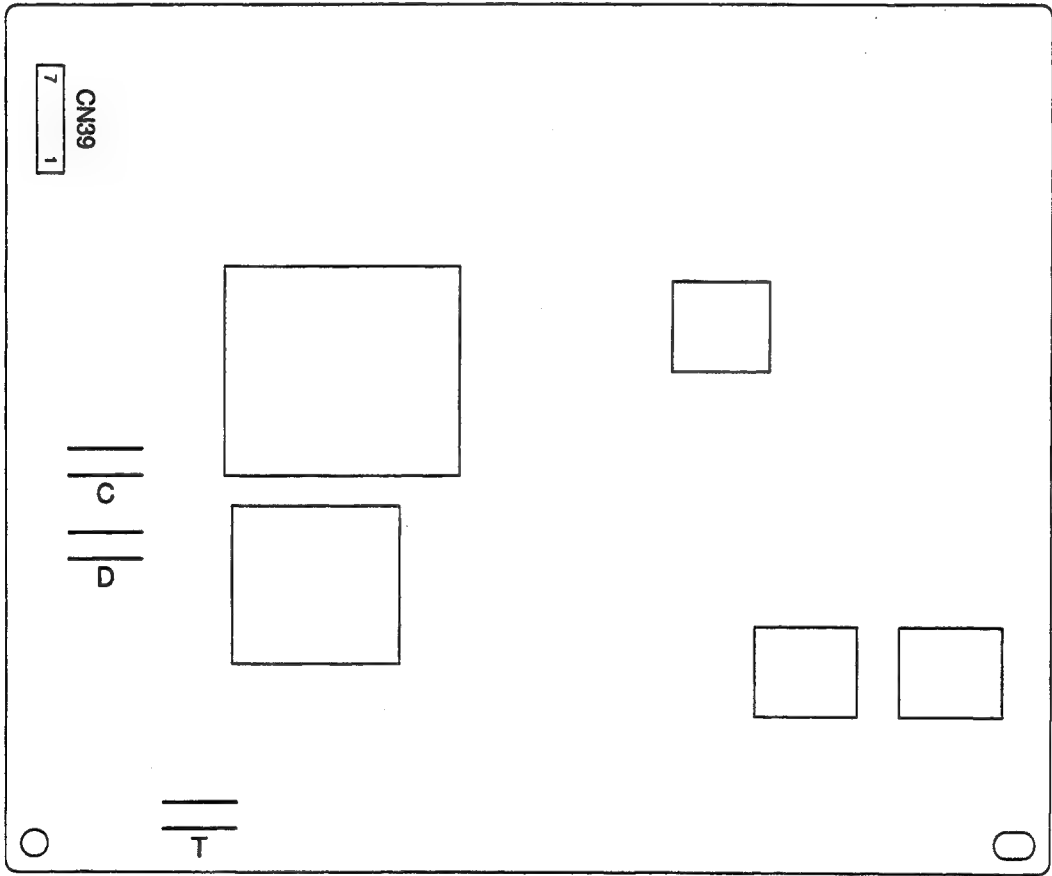
Refer to FCB PCB CN1.

3.12 High Voltage Power Supply PCB (HVPS)

Top View

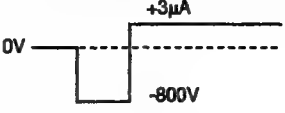
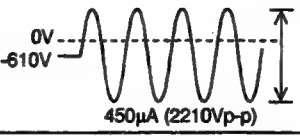
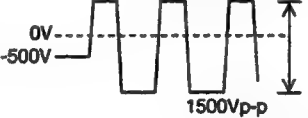


Front Side





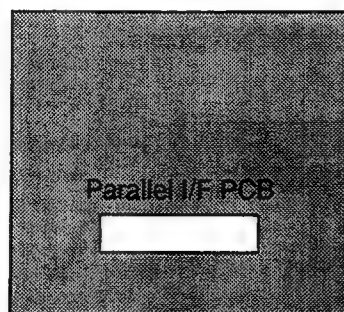
# High Voltage Output

Pin No.	Signal Name	Destination	Signal Waveform	Function
T	Transfer	Bias Transfer Roller		(1) Transfer Current (: +3 $\mu$ A) (2) Cleaning Voltage (: -800 V)
C	Charge	Bias Charge Roller		Charge Current : 450 $\mu$ A (AC300 Hz Sine Wave) & DC Charge Voltage
D	Development	Development Roller		Development Voltage (AC1.7 kHz Square Wave) & DC Voltage

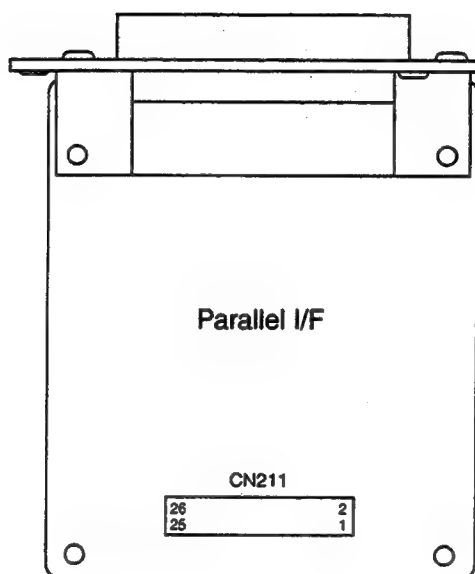
## CN39

Refer to FCB PCB CN52.

### **3.13 Parallel Interface PCB (Option)**



**Back Side View**

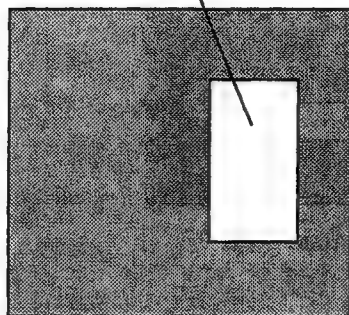


#### **CN211**

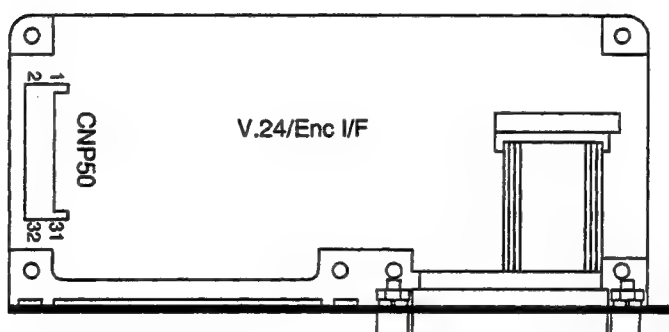
Refer to FCB PCB CN13.

### 3.14 V.24/Encryption Interface PCB (Option)


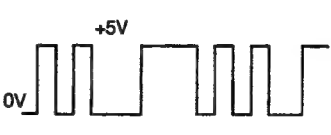
V.24/Encryption Interface Option








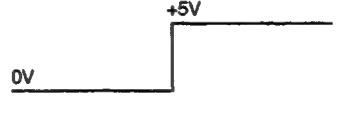
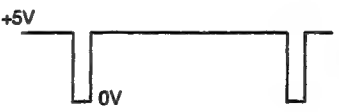
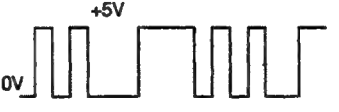


Back Side View



## CN50 (1/3)

Pin No.	Signal Name	Destination	Signal Waveform	Function
1	AD7	FCB CN14-12		Data Signal
2	AD6	FCB CN14-13		
3	AD5	FCB CN14-14		
4	AD4	FCB CN14-15		
5	AD3	FCB CN14-16		
6	AD2	FCB CN14-17		
7	AD1	FCB CN14-18		
8	AD0	FCB CN14-19		
9	N.C	Not Used		
10	N.C	Not Used		
11	A2	FCB CN14-4		Address Signal
12	A1	FCB CN14-3		
13	N.C	Not Used		

## CN50 (2/3)

Pin No.	Signal Name	Destination	Signal Waveform	Function
14	nMPSC	FCB CN14-5		Chip Select Signal for MPSC
15	nPIO	FCB CN14-10		Chip Select Signal for PPI
16	nWRL	FCB CN14-2		Write Signal for MPSC,PPI
17	nRD	FCB CN14-1		Read Signal for MPSC,PPI
18	nRES	FCB CN13-25		Reset Signal
19	N.C	Not Used		
20	nENOPT	FCB CN14-11		Option Detect Signal
21	N.C	Not Used		
22	N.C	Not Used		
23	nMPINT	FCB CN13-24		Interrupt Signal for MPSC
24	MSOD	FCB CN14-7		Serial Tx Data Signal
25	MSID	FCB CN14-8		Serial Rx Data Signal
26	MSCK	FCB CN14-9		Data Clock

## CN50 (3/3)

Pin No.	Signal Name	Destination	Signal Waveform	Function
27	GND	FCB CN14-21	0V	Ground
28	GND	FCB CN13-1	0V	Ground
29	+5V	FCB CN13-2	+5V	+5V
30	+12V	FCB CN14-20	+12V	+12V
31	-12V	FCB CN14-22	+12V	-12V
32	GND	FCB CN13-26	0V	Ground

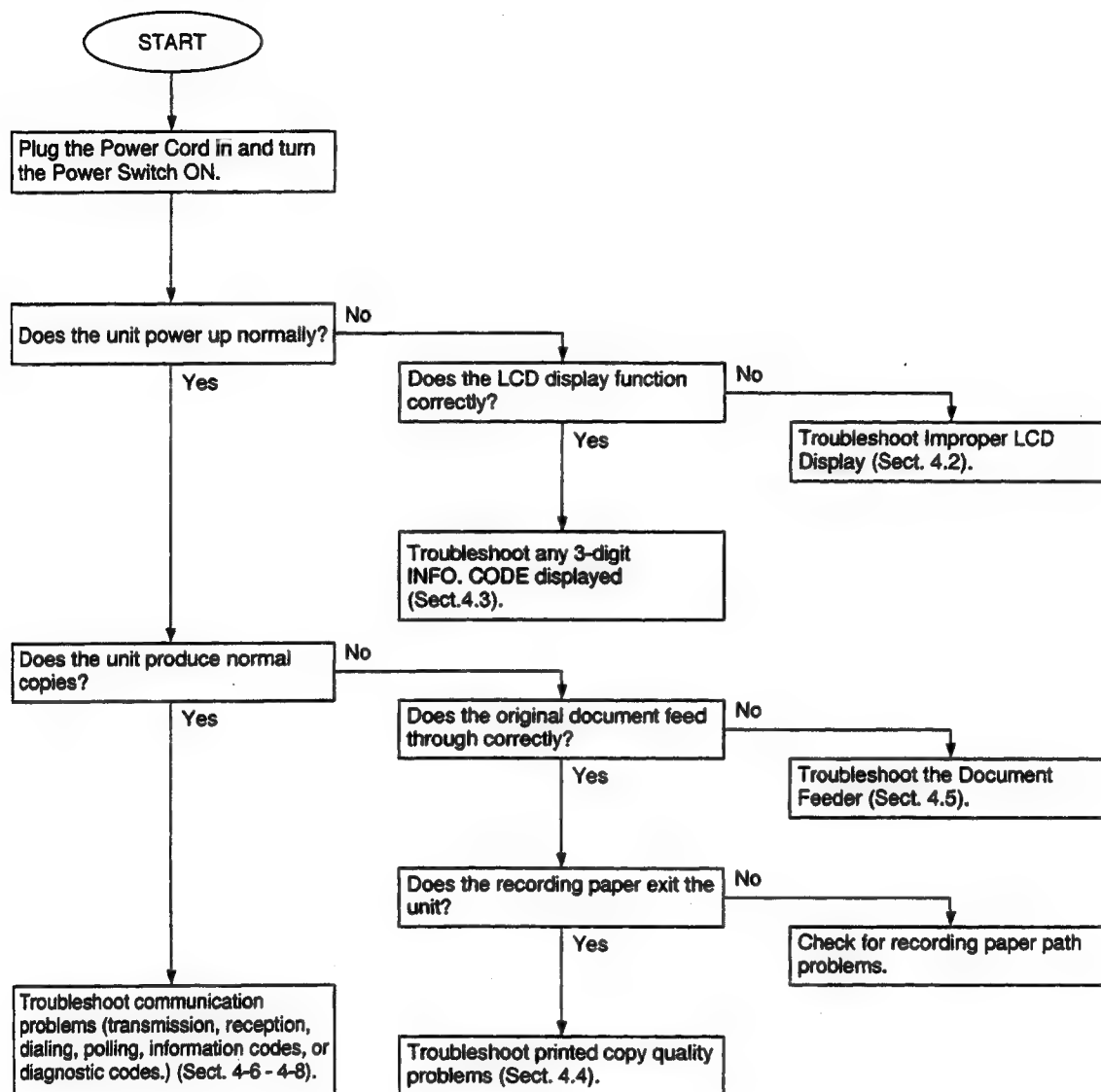
**Note**

## **Chapter 4**

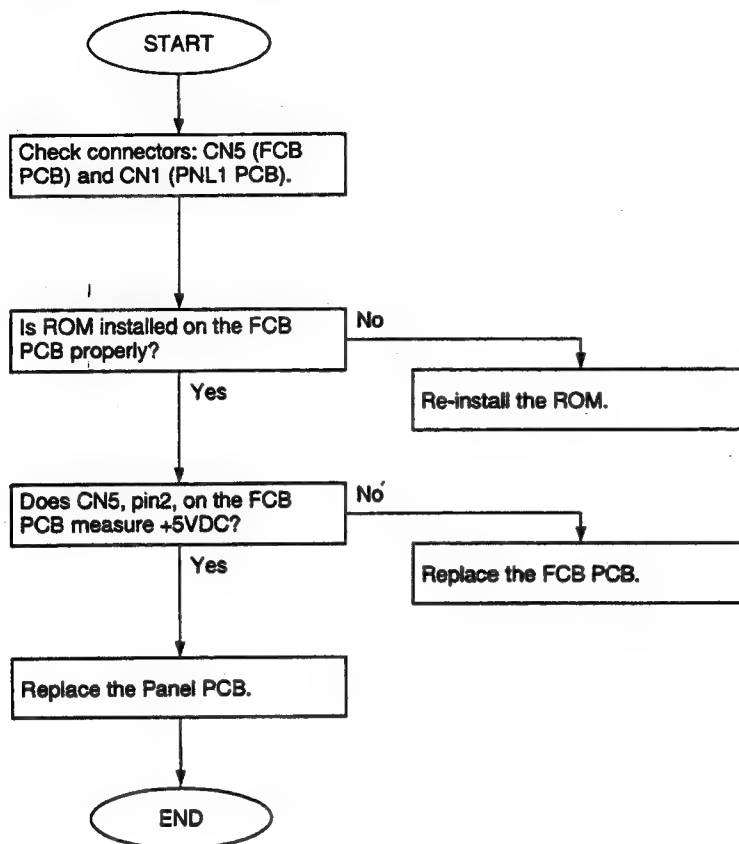
# **Troubleshooting**



## 4.1 Initial Troubleshooting Flowchart



## 4.2 Improper LCD Display

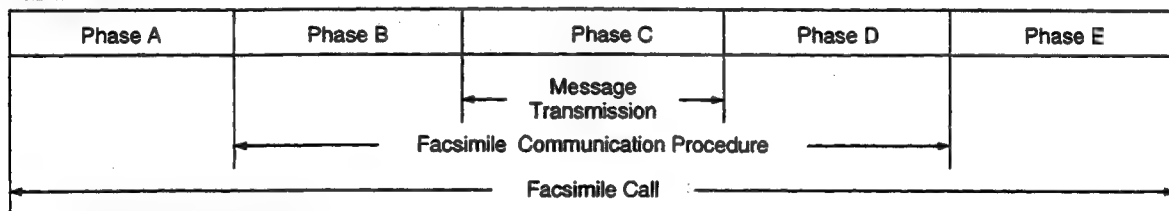


### 4.3 Information Codes (INFO. CODES)

The 3-digit information codes display to show the unit's status. These codes also print on the journal. The following table indicates appropriate sections for troubleshooting.

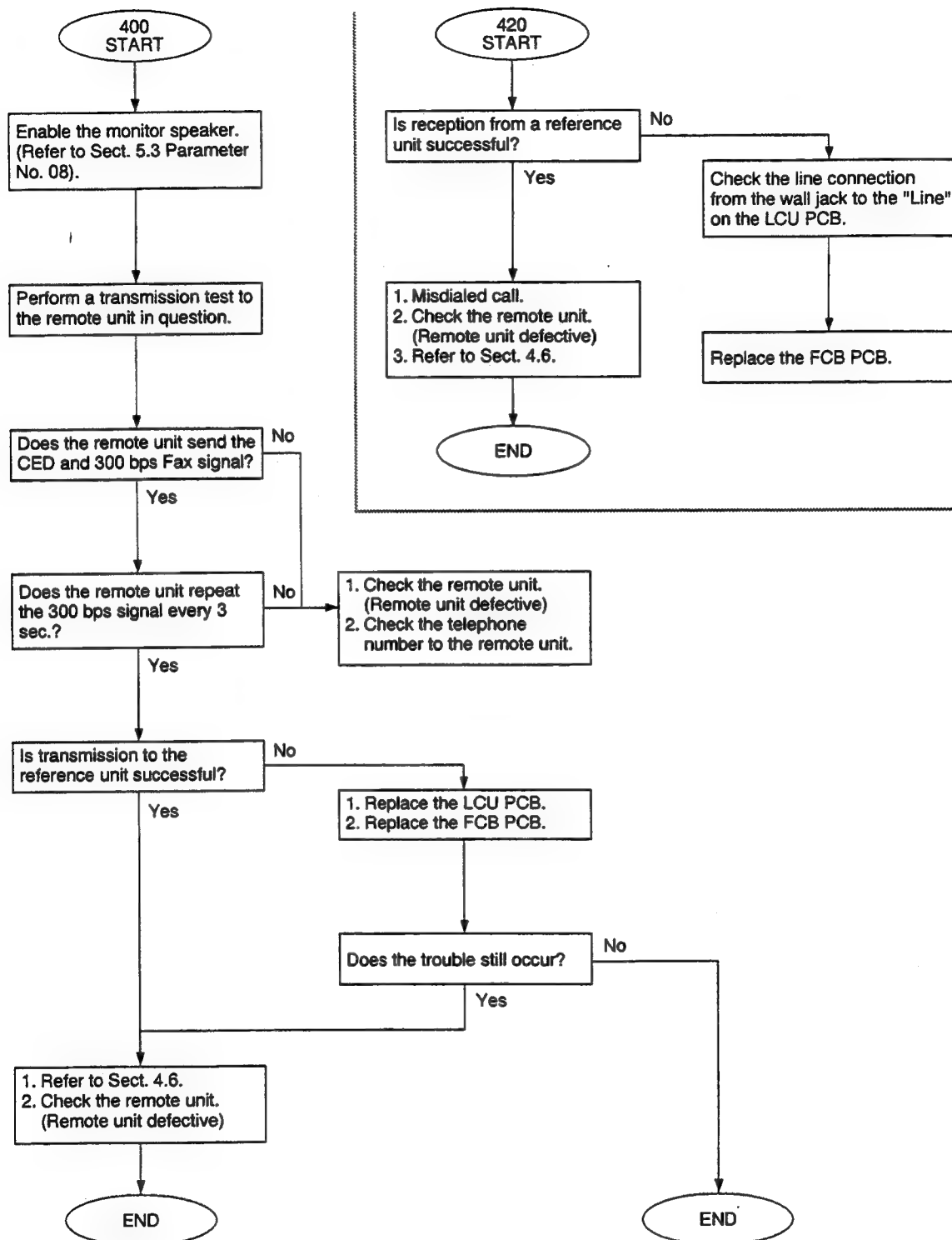
Code	Explanation	Phase	Section	Code	Explanation	Phase	Section
001	Recording paper jam	C	4.3.8	414	Polling reception error	B	4.3.12
002	Recording paper jam	C,D	4.3.8	415	Remote side mis-operation	B	4.3.12
010	No recording paper	B,C	4.3.9	416	Reception error	D	4.3.4
030	Document misfeeding	B	4.3.10	417	Reception error	C	4.3.5
031	Document too long	C	4.3.10	418	Reception error	C	4.3.5
400	Transmission error	B	4.3.1	420	Reception error	B	4.3.1
402	Transmission error	B	4.3.2	422	Transmission error	B	4.3.2
403	Polling reception error	B	4.3.12	434	Signal noise level too high	B	4.3.6
404	Transmission error	B	4.3.3	459	Reception error	C	4.3.7
405	Transmission error	B	4.3.3	490	Reception error	C	4.3.5
407	Transmission error	D	4.3.3	494	Reception error	C	4.3.7
408	Transmission error	D	4.3.5	495	Reception error	C	4.3.7
409	Transmission error	D	4.3.5	630	Remote unit busy	B	4.3.11
411	Polling reception error	B	4.3.12				

#### Phase

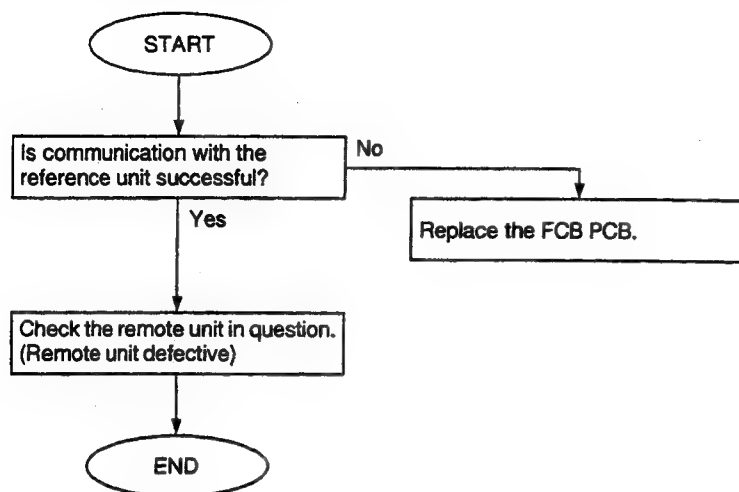


- Phase A: Call establishment
- Phase B: Pre-message procedure
- Phase C: Message transmission
- Phase D: Post-message procedure
- Phase E: Call release

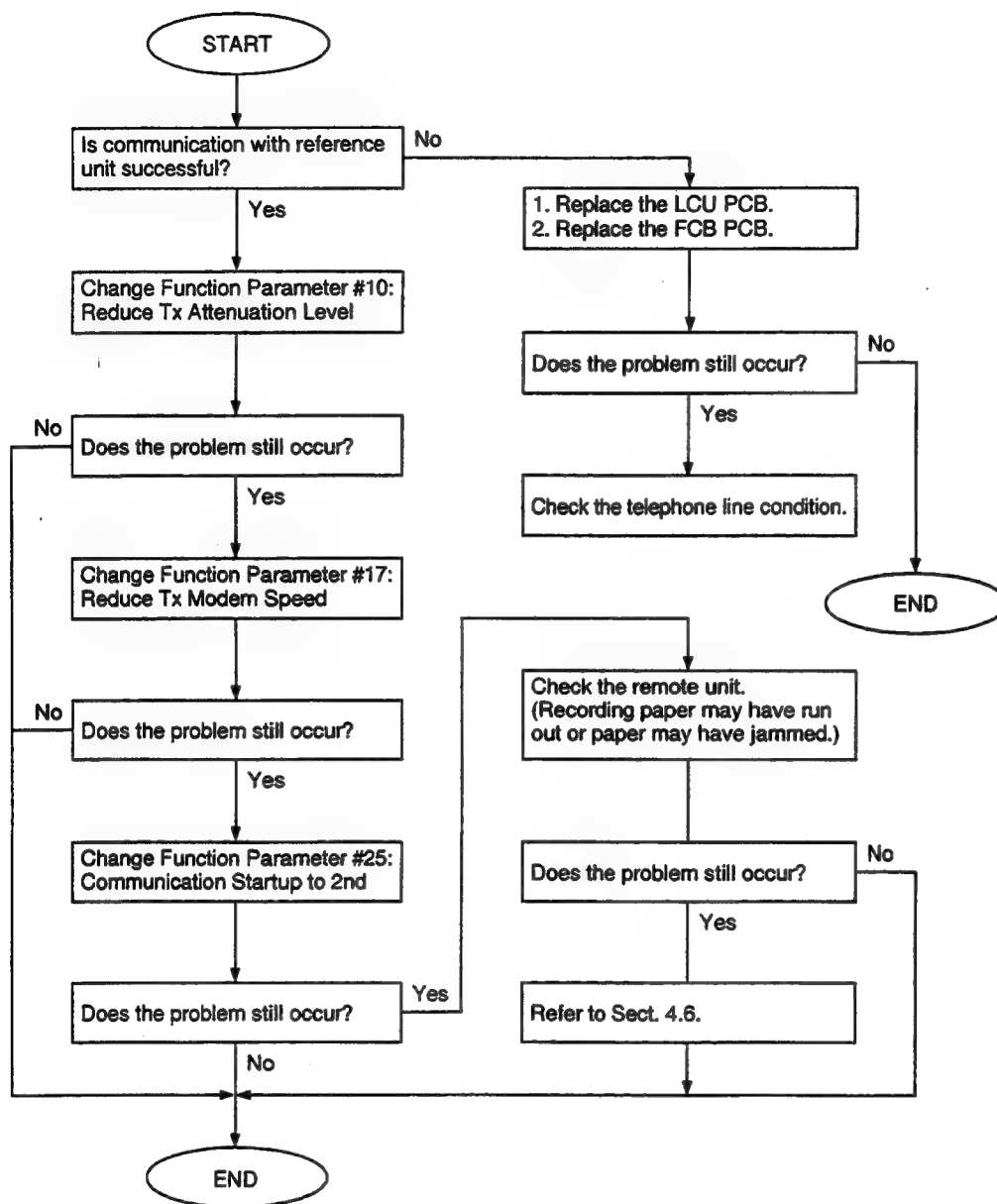
### 4.3.1 Information Codes: 400, 420



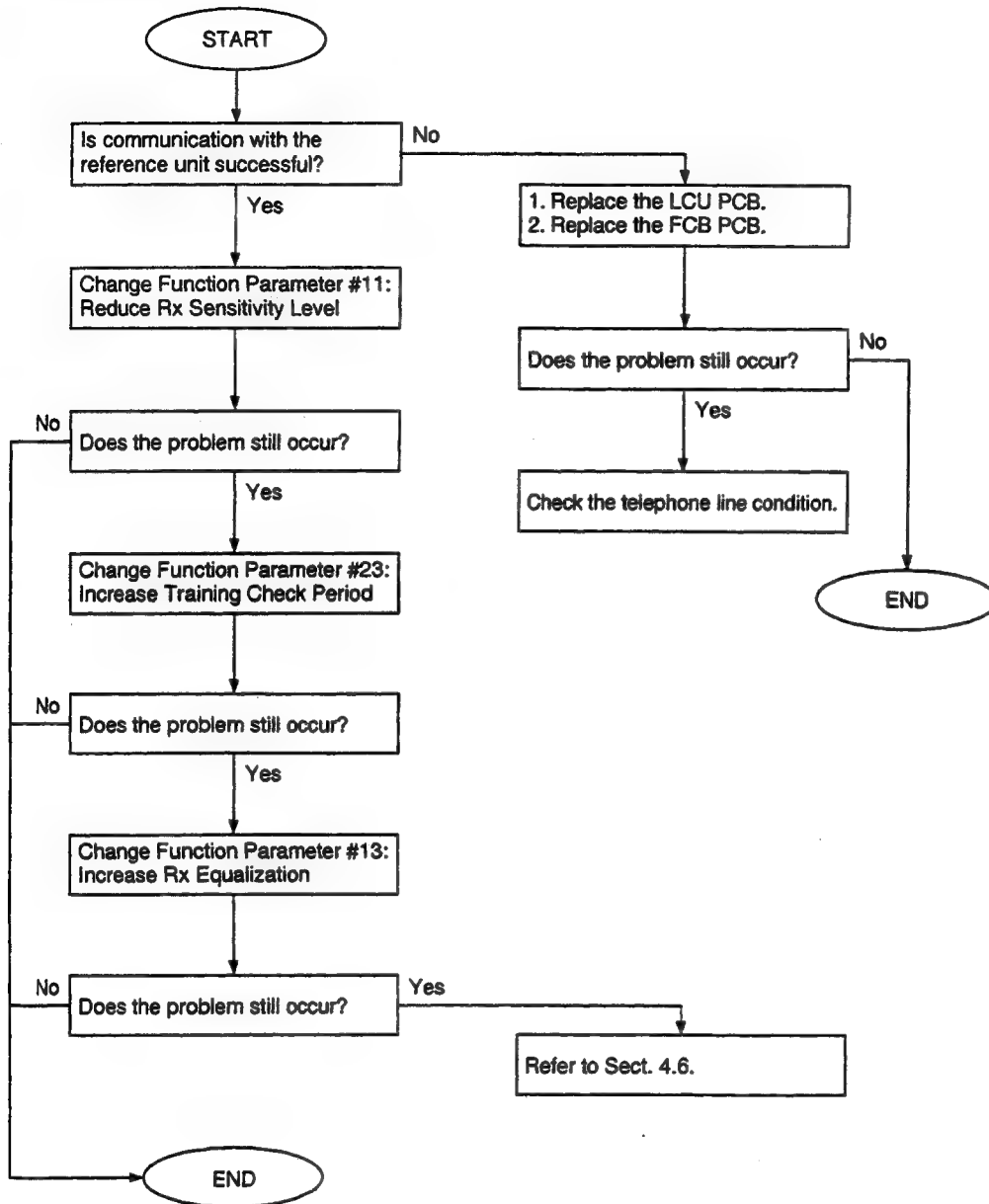
4.3.2 Information Codes: 402, 422



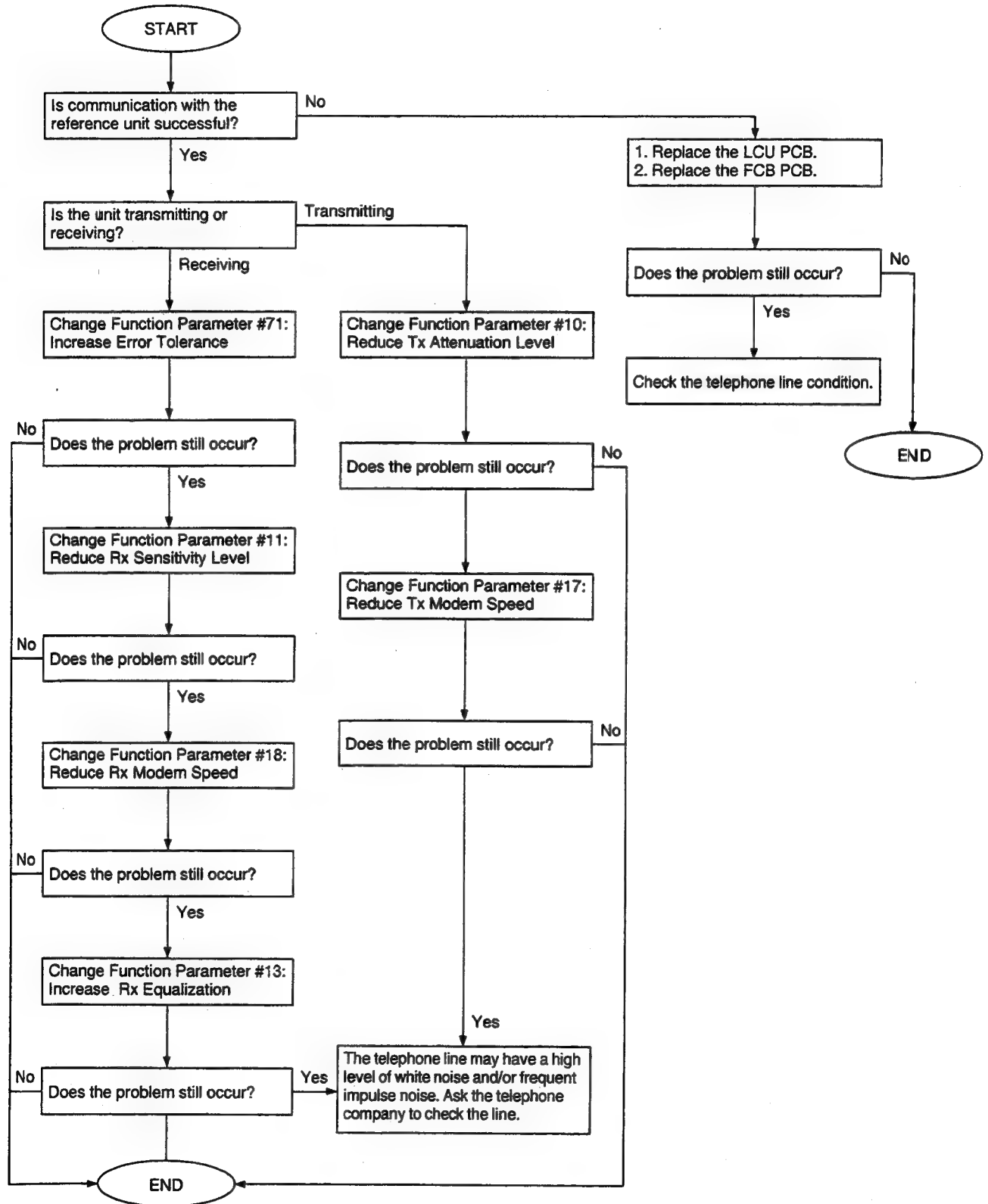
### 4.3.3 Information Codes: 404, 405, 407



4.3.4 Information Code: 416

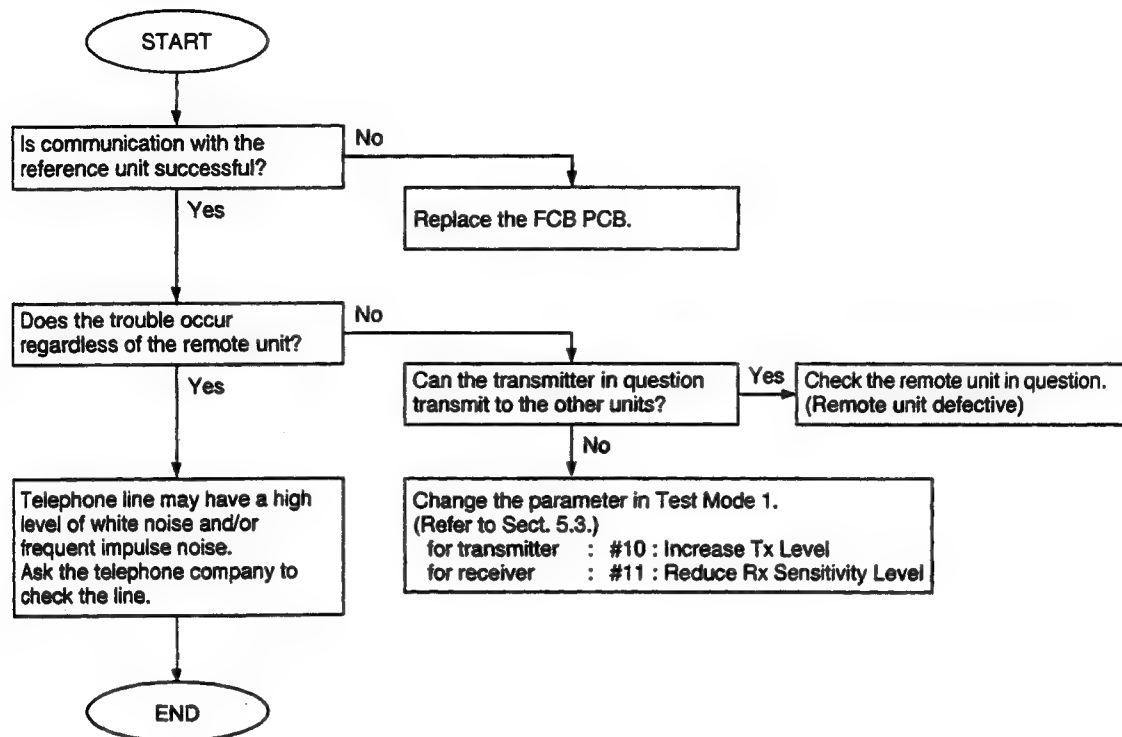


4.3.5 Information Codes: 408, 409, 417, 418, 490

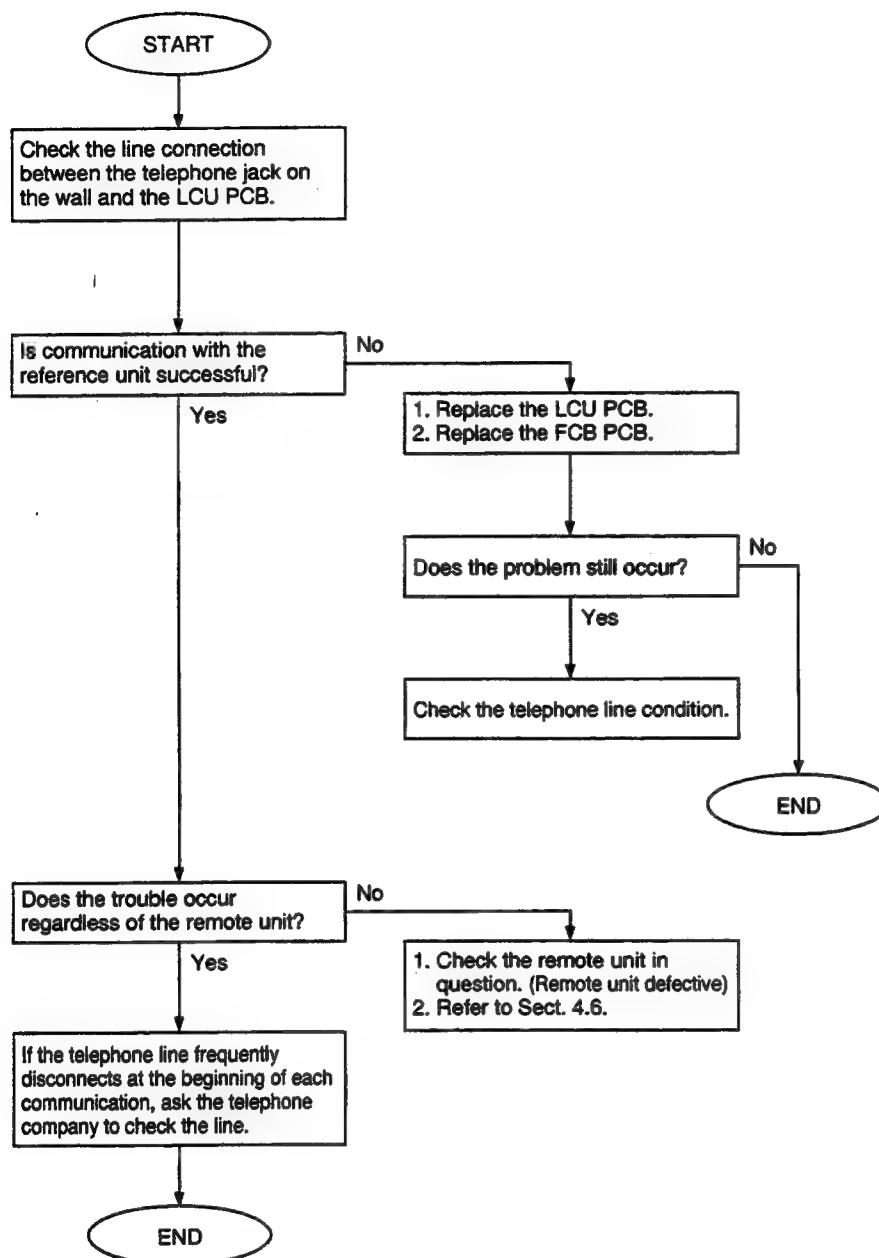




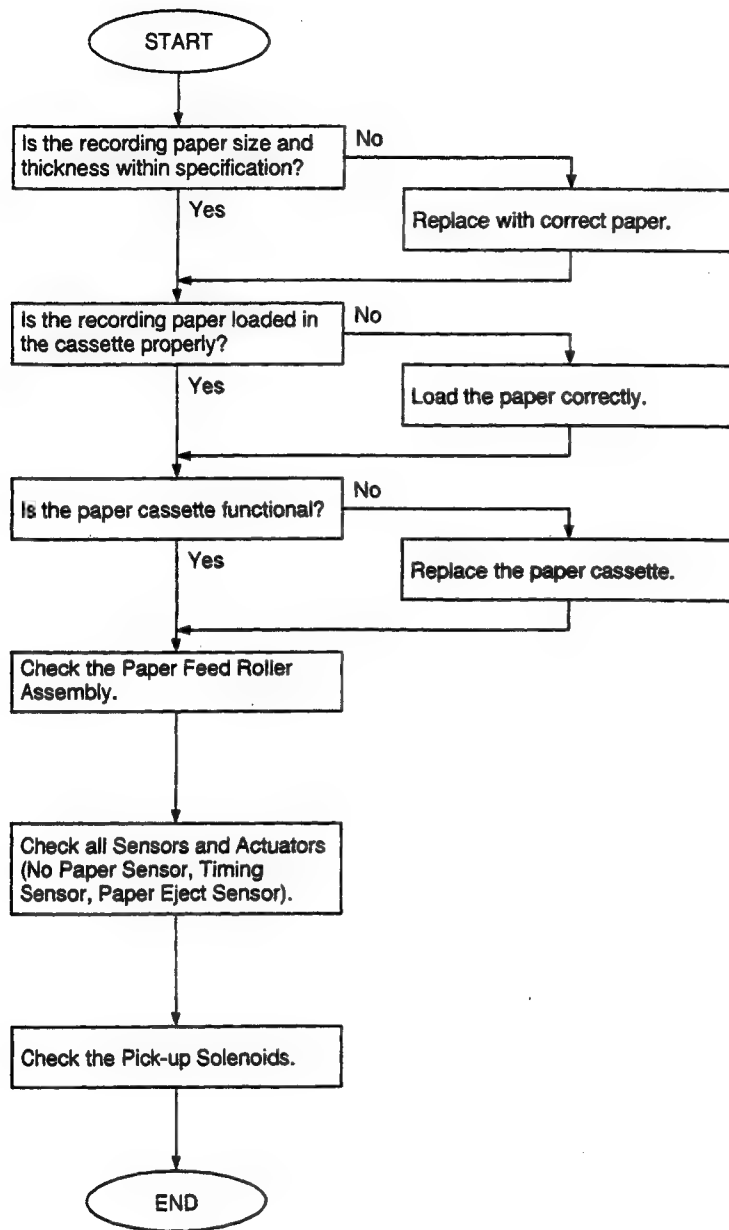
4.3.6 Information Code: 434



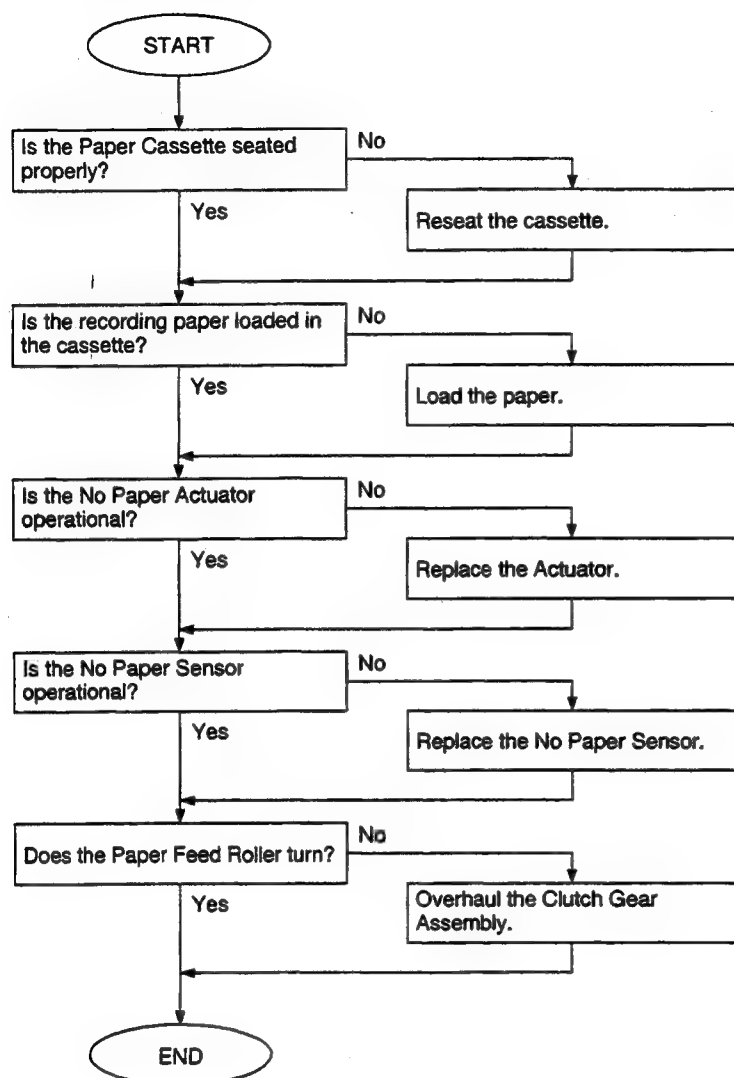
### 4.3.7 Information Codes: 459, 494, 495



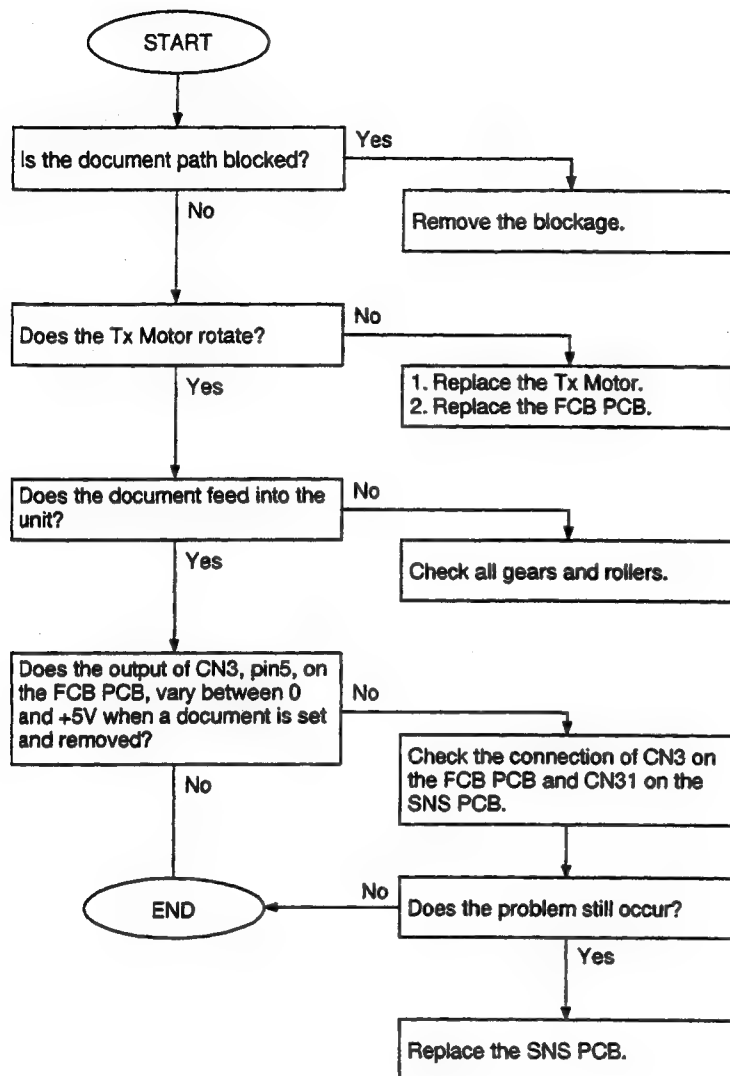
4.3.8 Information Codes: 001, 002, 003, 017 (Recording Paper Jam)



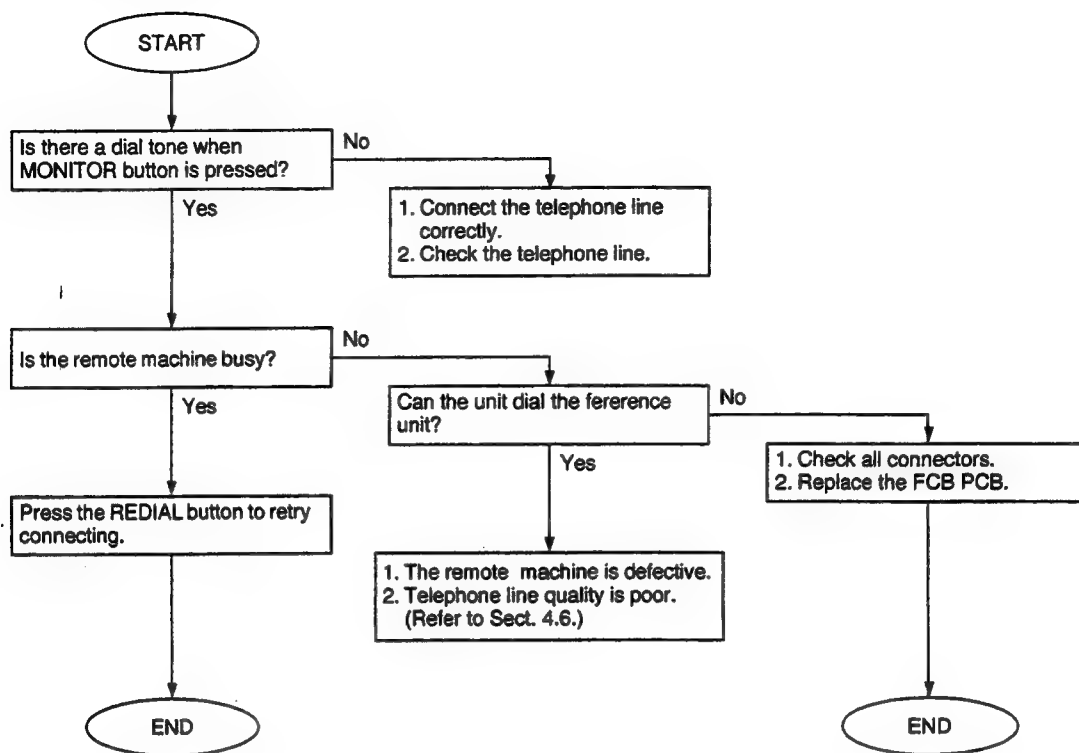
### 4.3.9 Information Code: 010 (No Recording Paper)



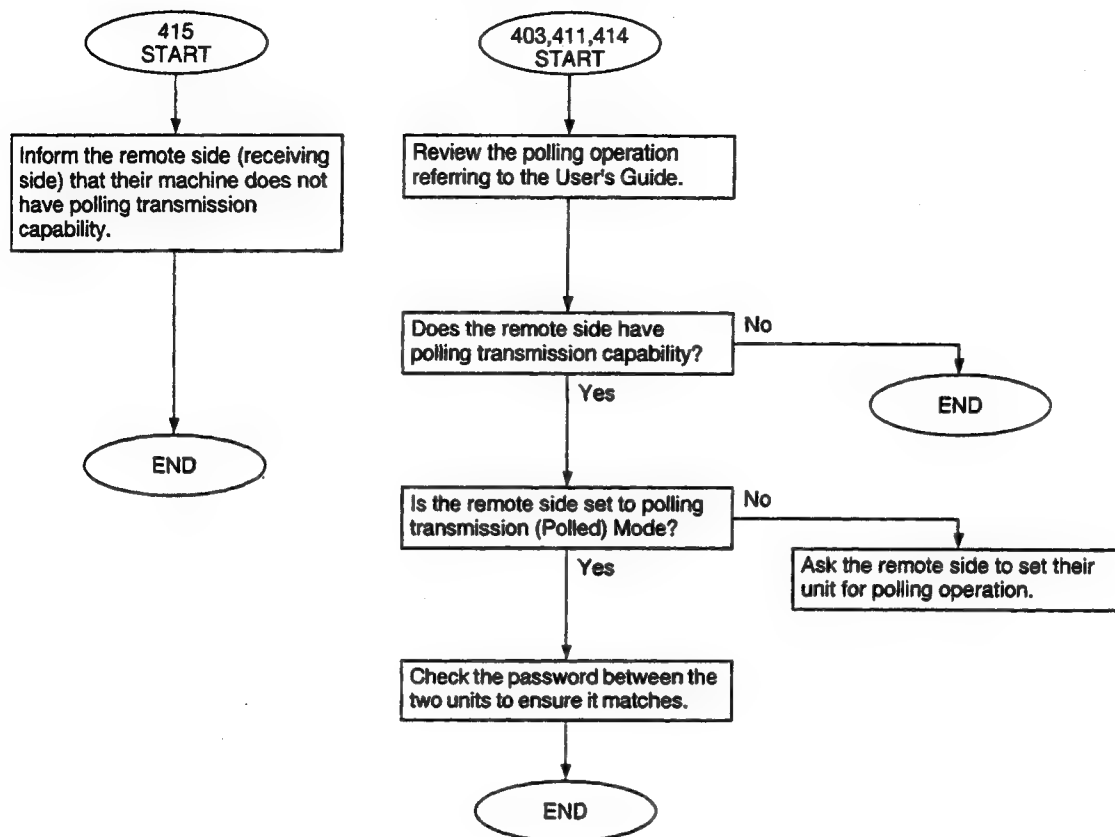
#### 4.3.10 Information Codes: 030, 031 (Document Jam)



### 4.3.11 Information Code: 630 (Dialing Error)



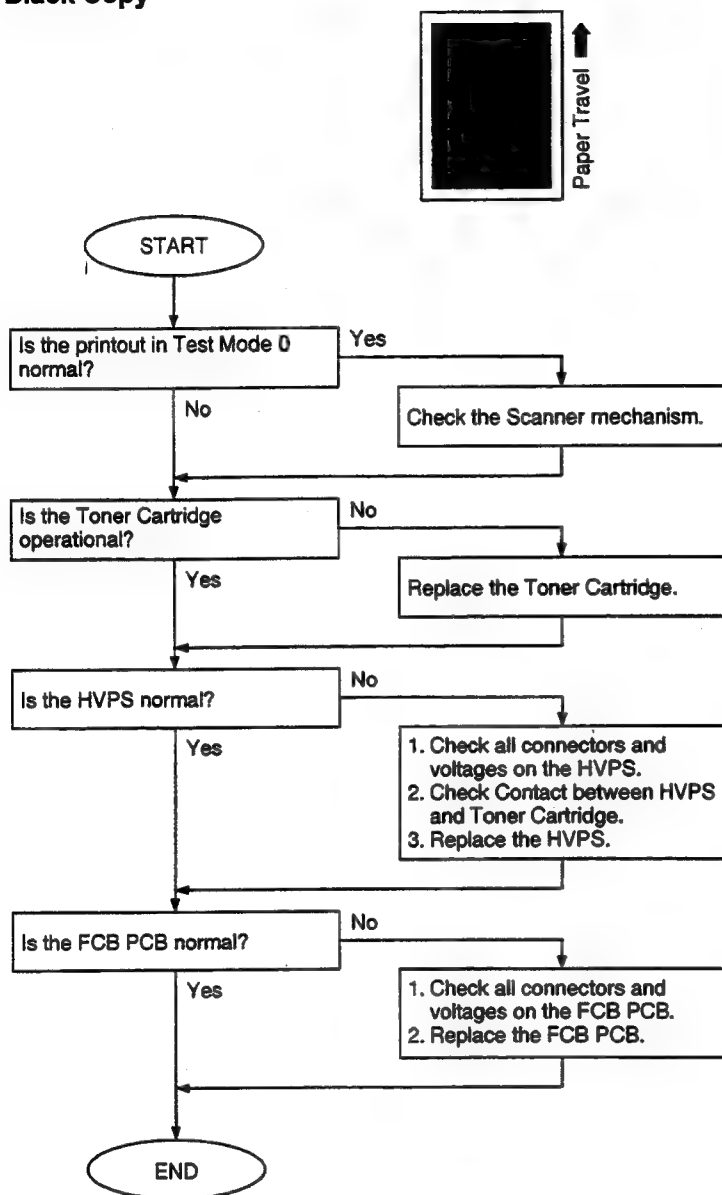
### 4.3.12 Information Codes: 403, 411, 414, 415 (Polling Operation Trouble)



Polling communication with 4-digit password is not a ITU-T / CCITT Standard feature. If the transmitter and receiver have different manufacturers, polling communication with password *may not* be possible.

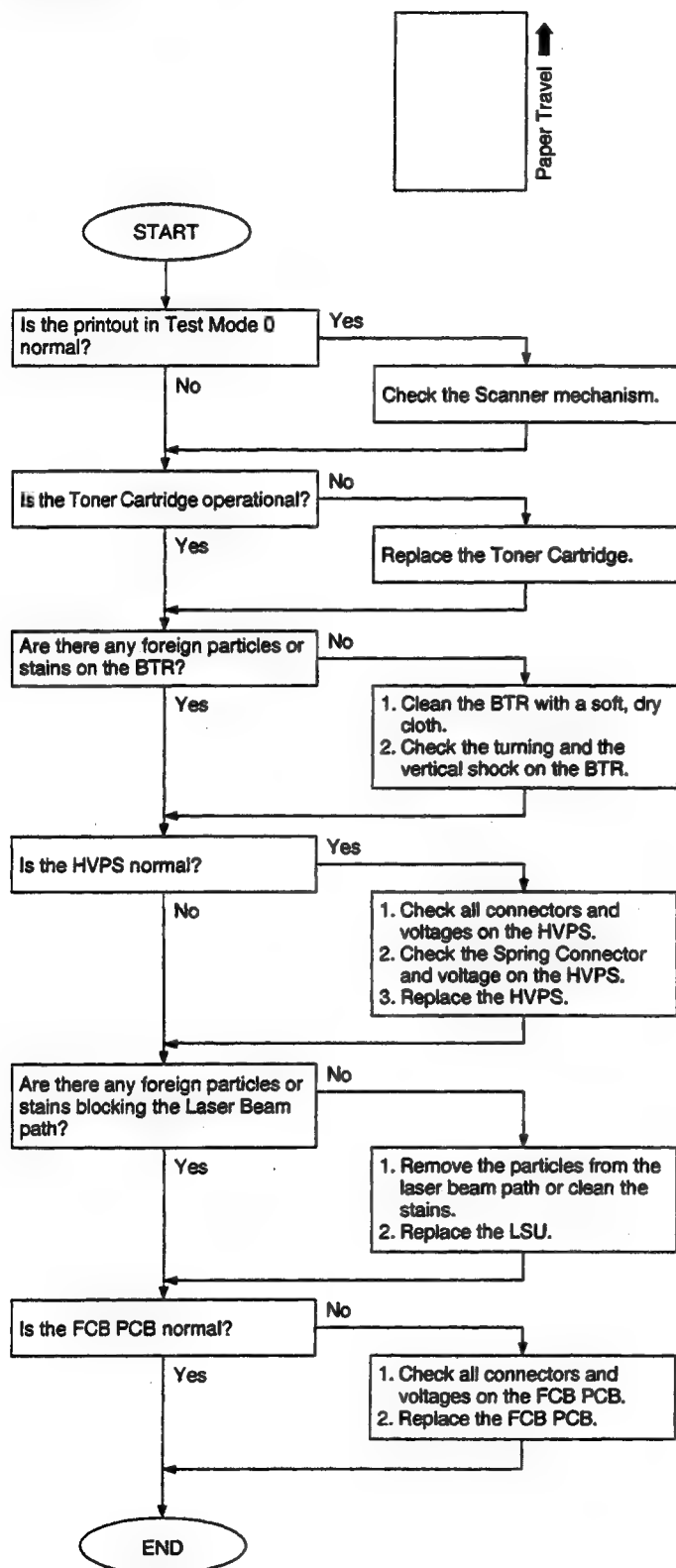
## 4.4 Printed Copy Quality Problems

### 4.4.1 Black Copy

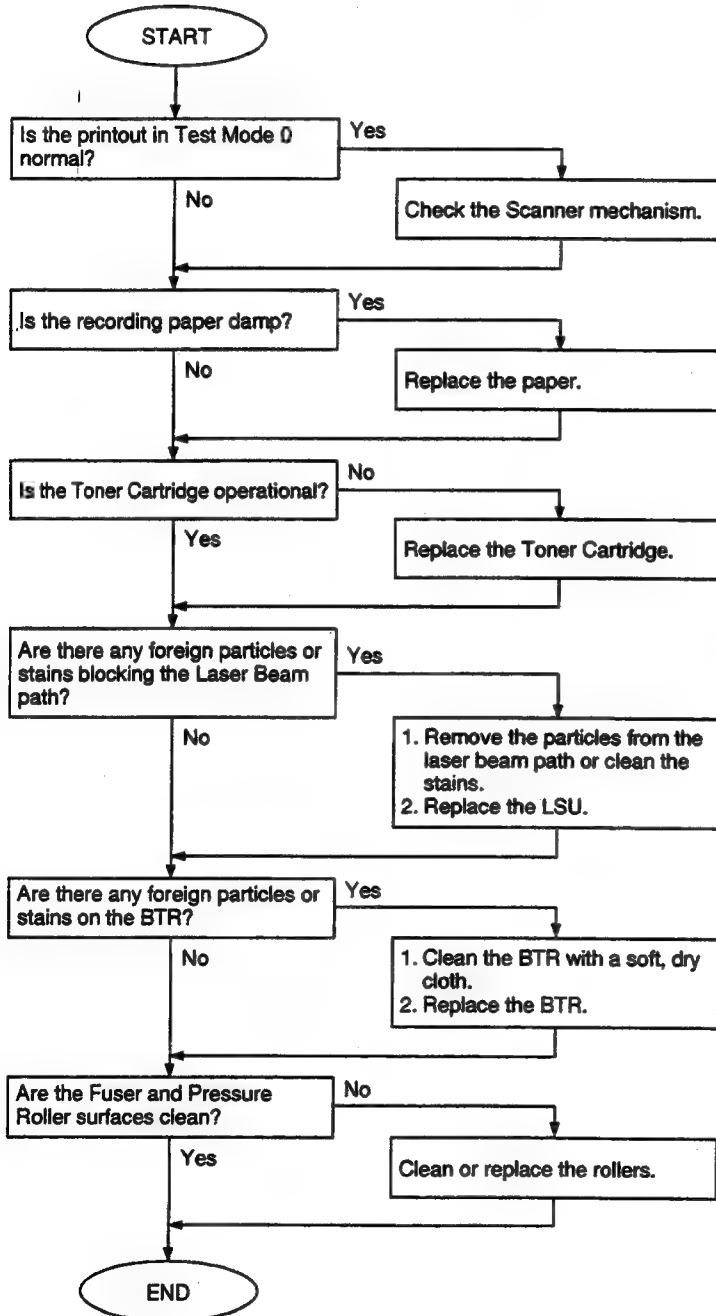
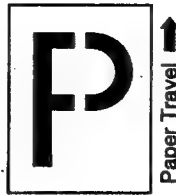




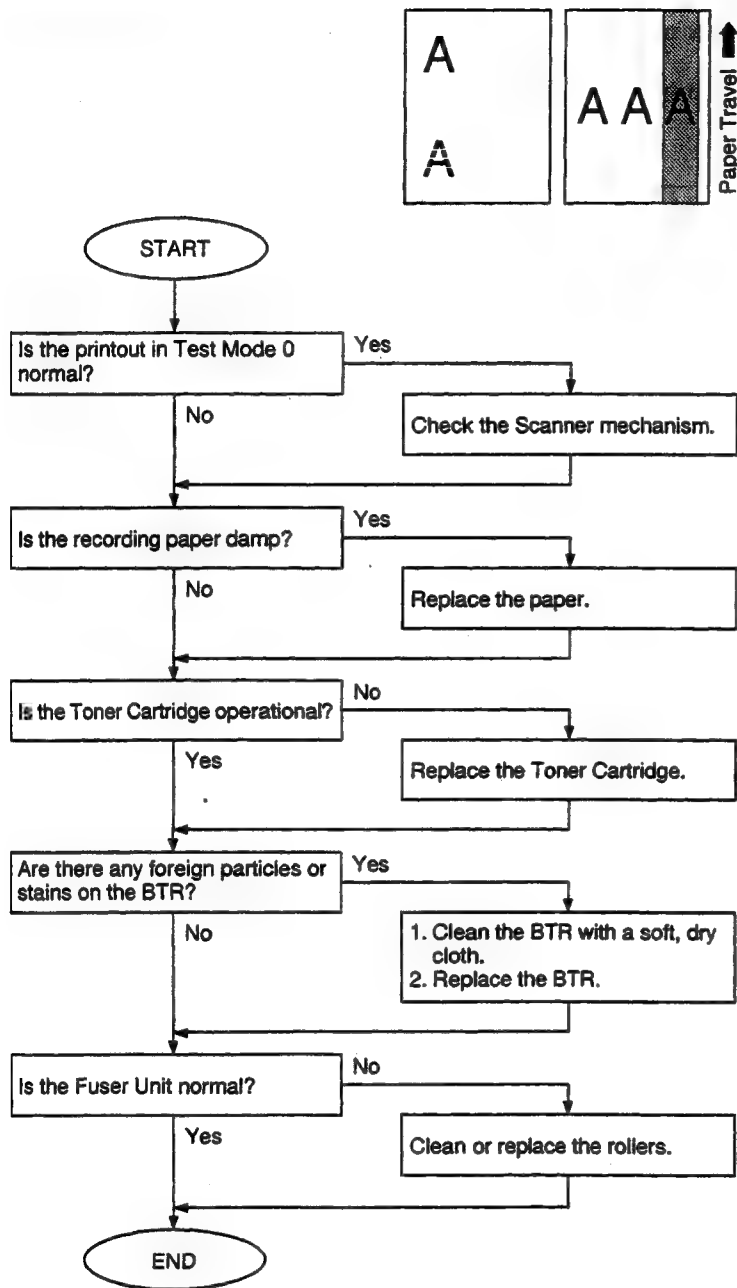
#### 4.4.2 Blank Copy



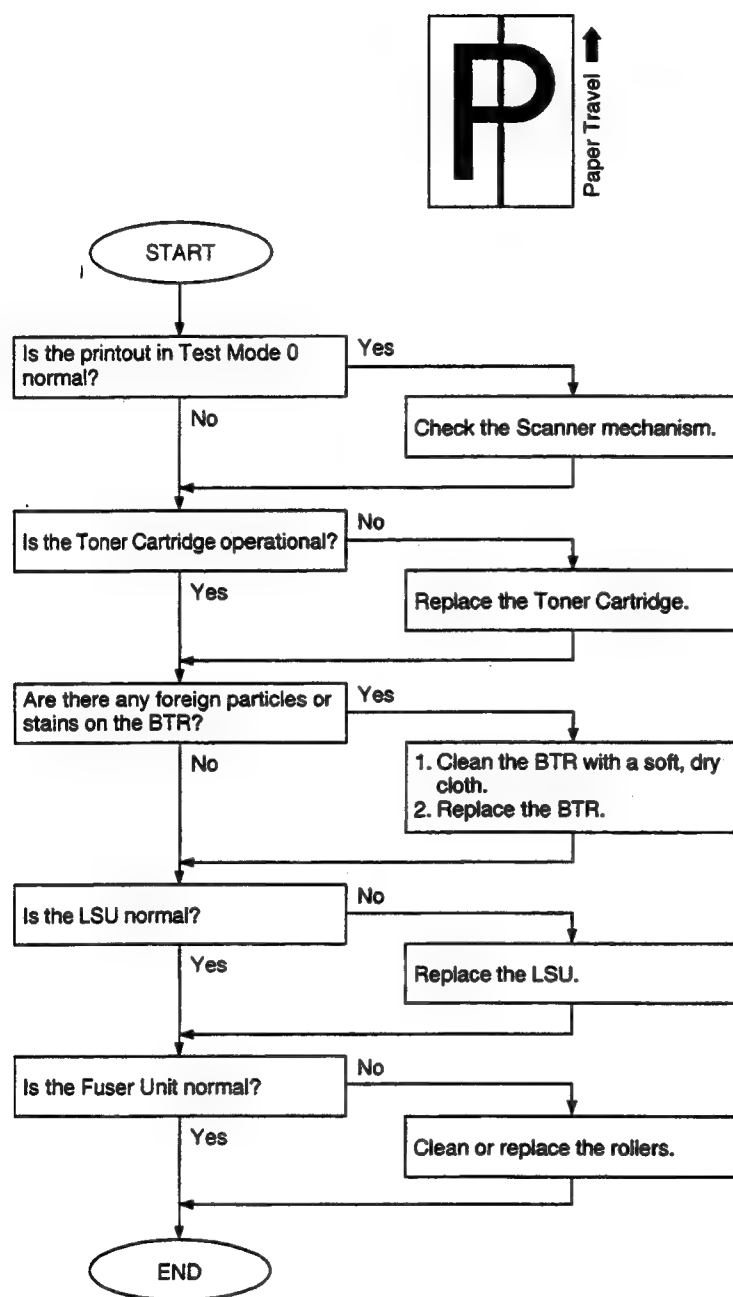
#### 4.4.3 Vertical White Lines



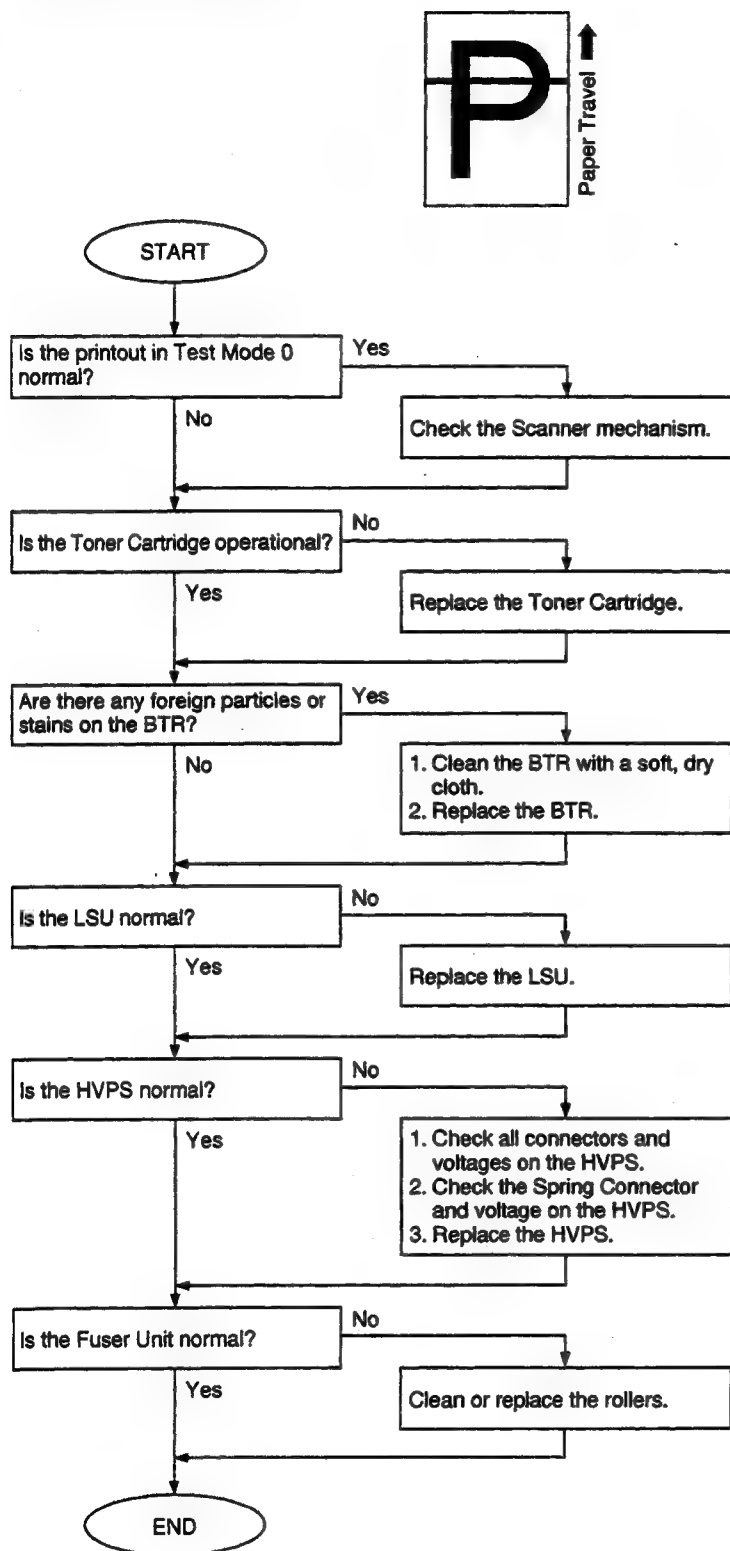
#### 4.4.4 Ghost Images



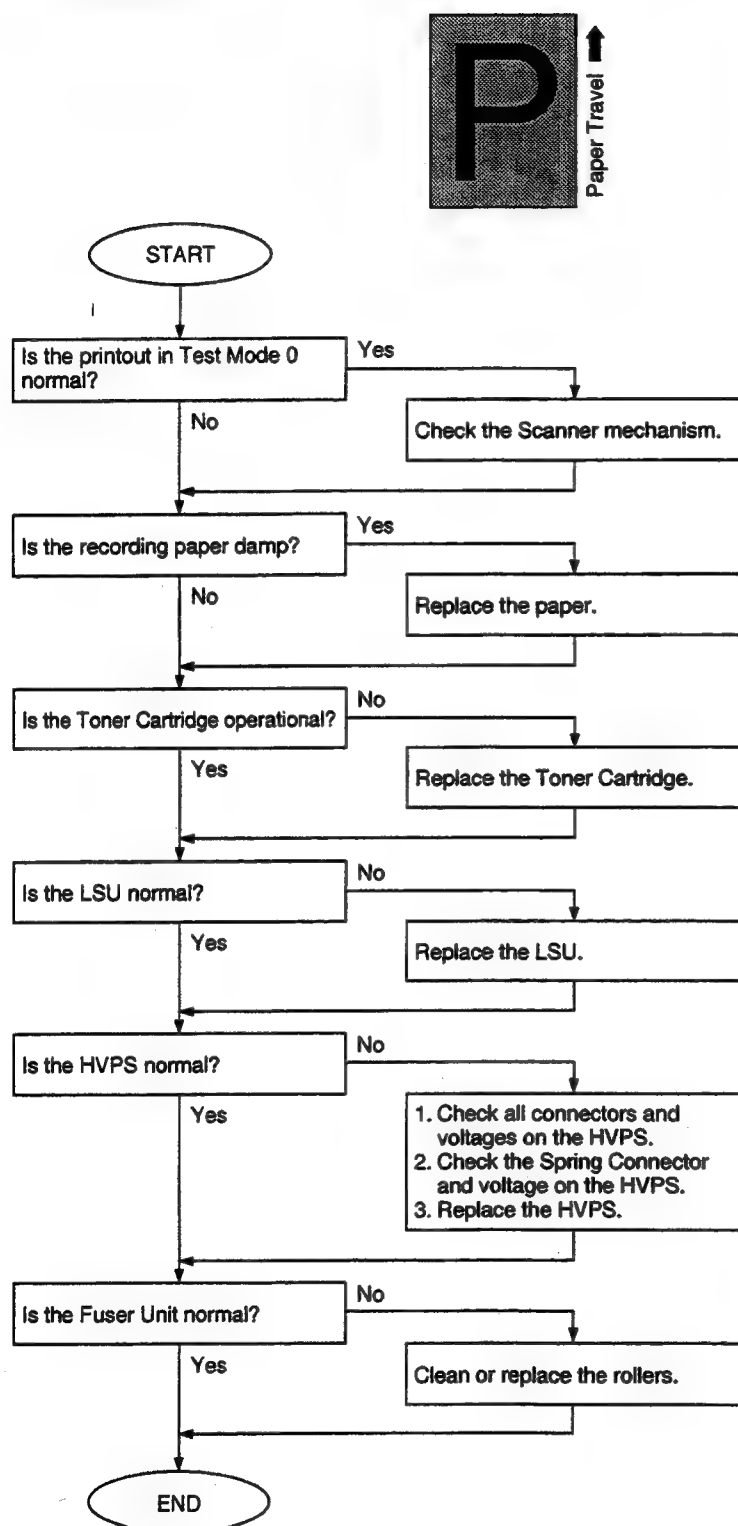
# 4.4.5 Vertical Dark Lines



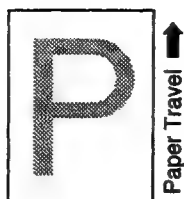
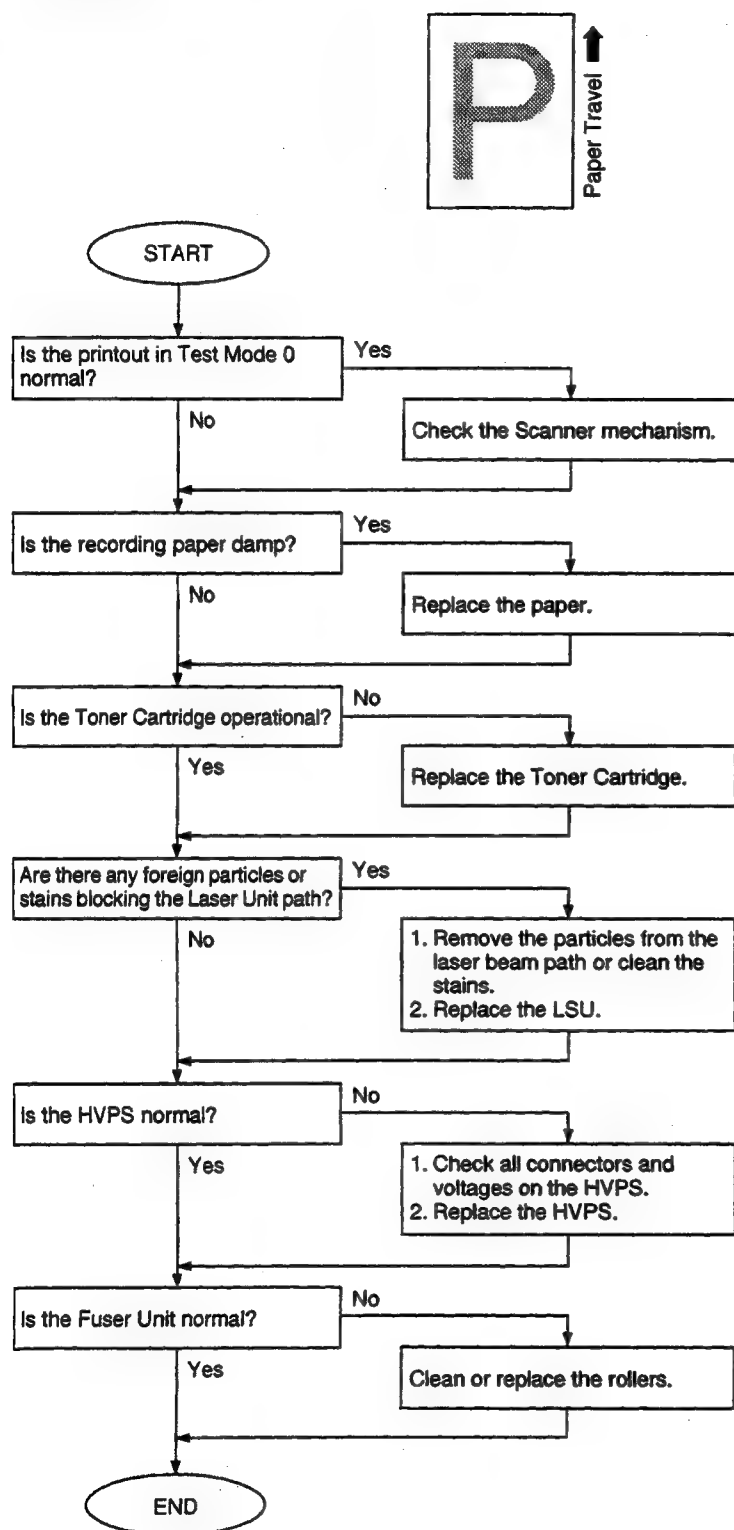
#### 4.4.6 Horizontal Dark Lines



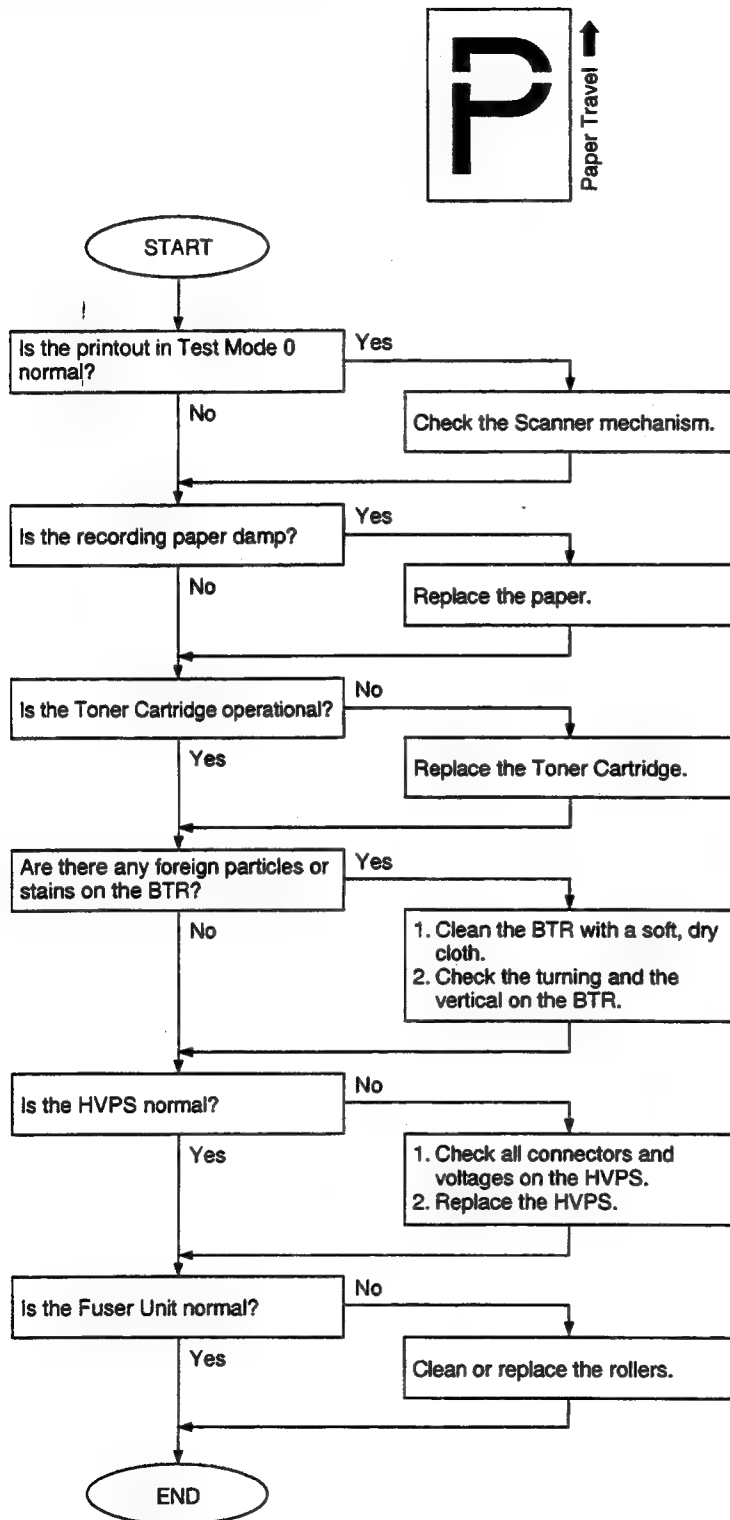
# 4.4.7 Dark Background



# 4.4.8 Light Print

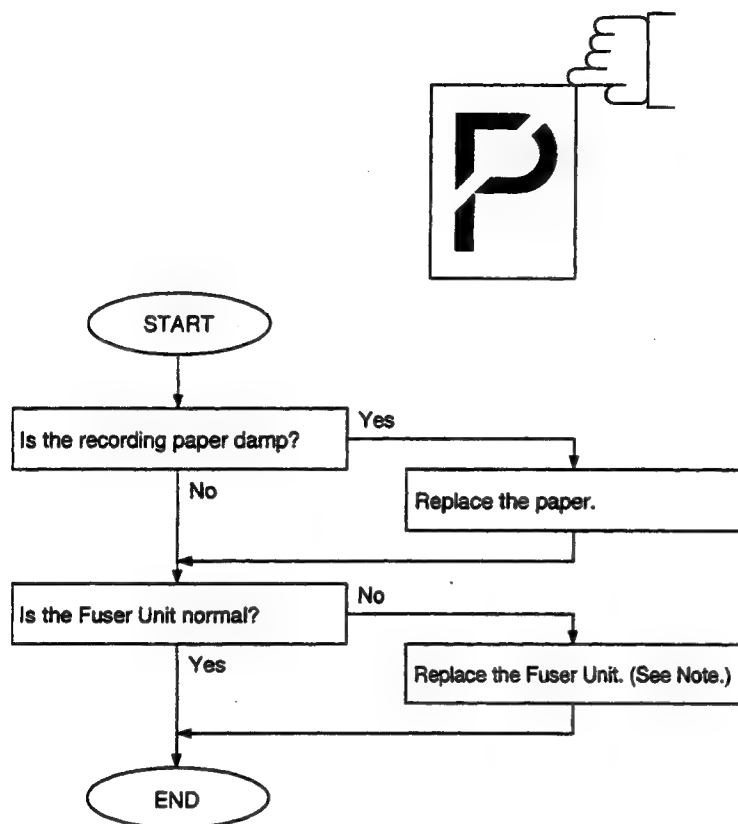


#### 4.4.9 Horizontal White Lines



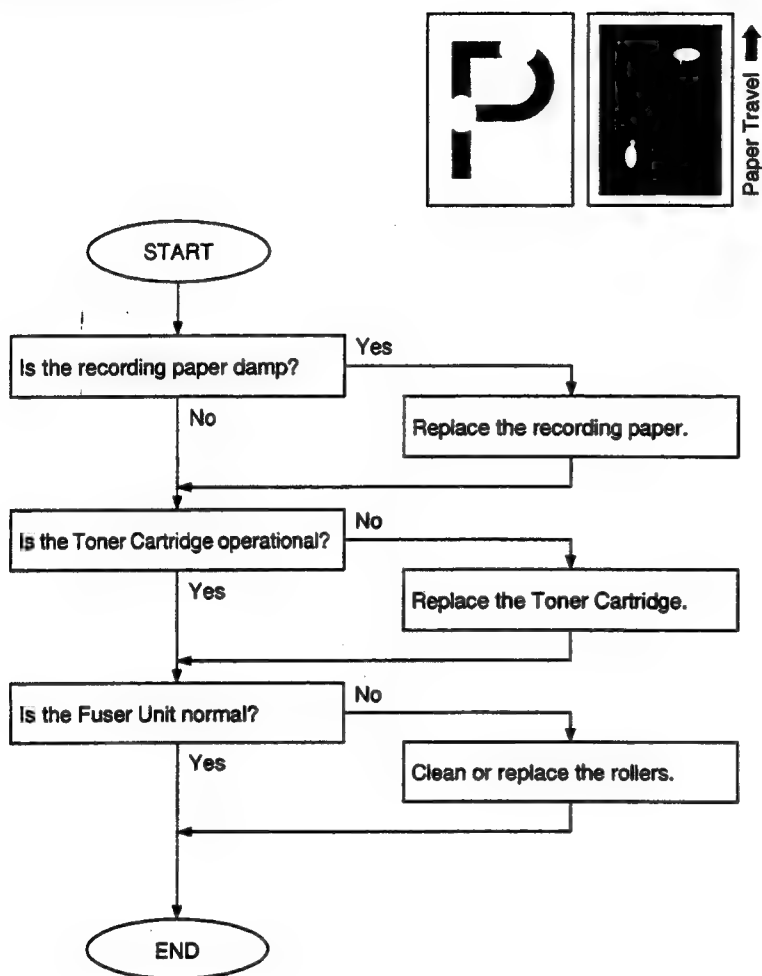


4.4.10 Improper Fusing (Printed image does not bond to the paper)

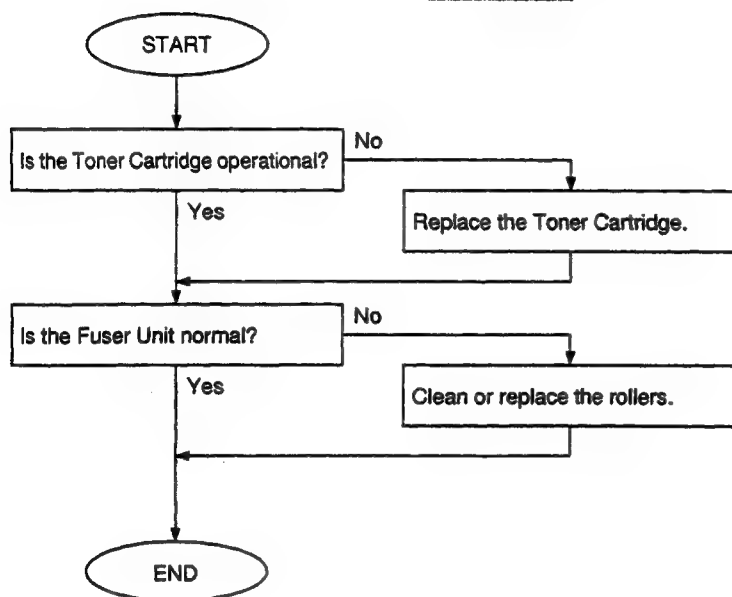
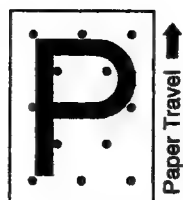


**Note:** Replace the entire unit when the Thermostat or the Thermistor becomes open-circuit.

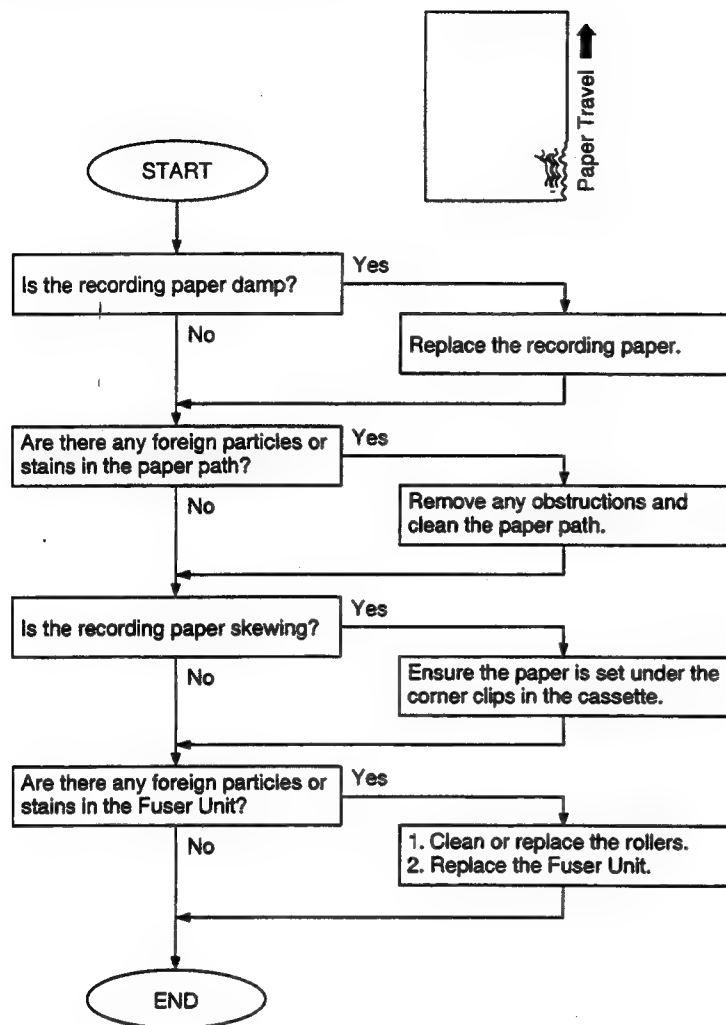
#### 4.4.11 Voids in Solid Areas



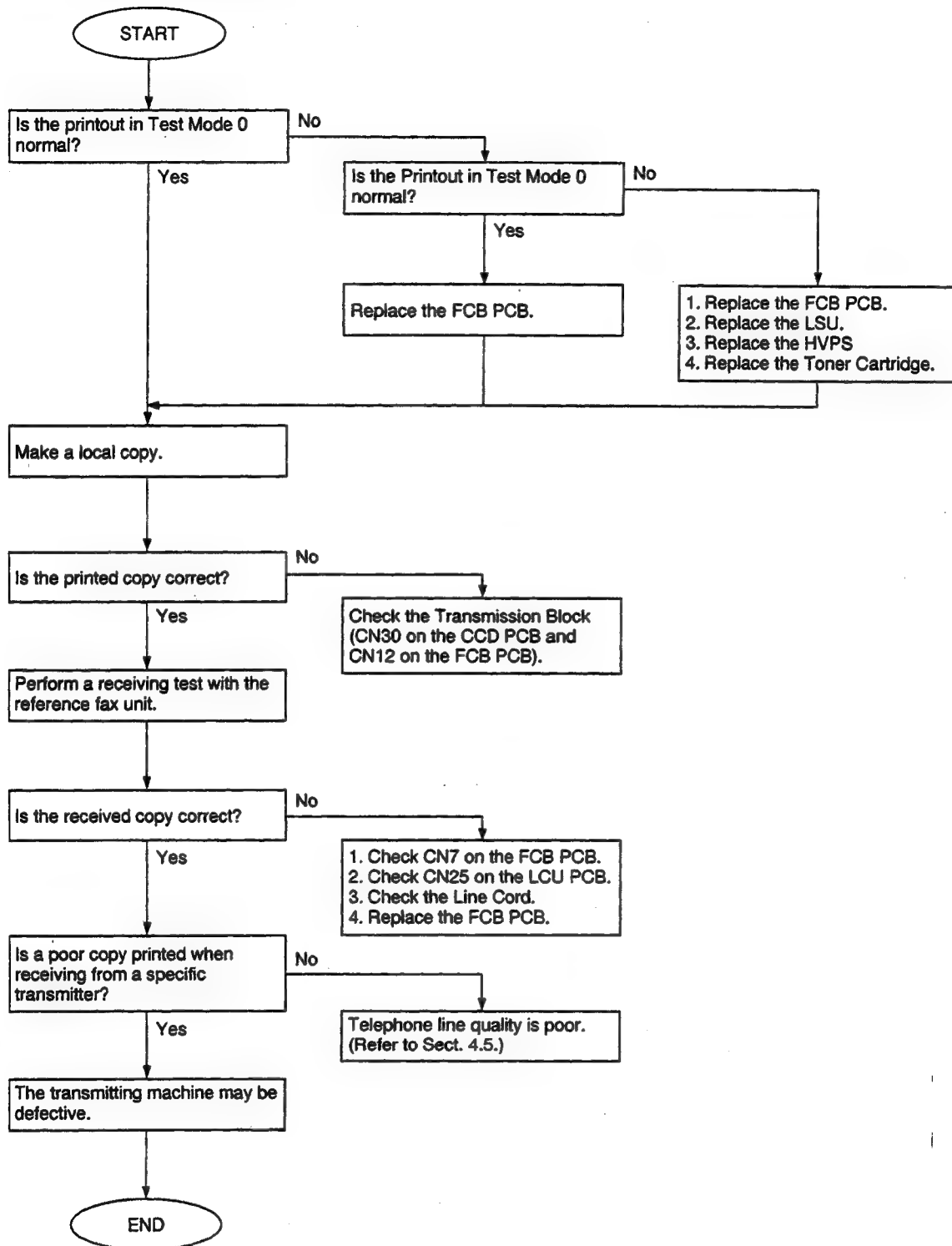
4.4.12 Black Dots



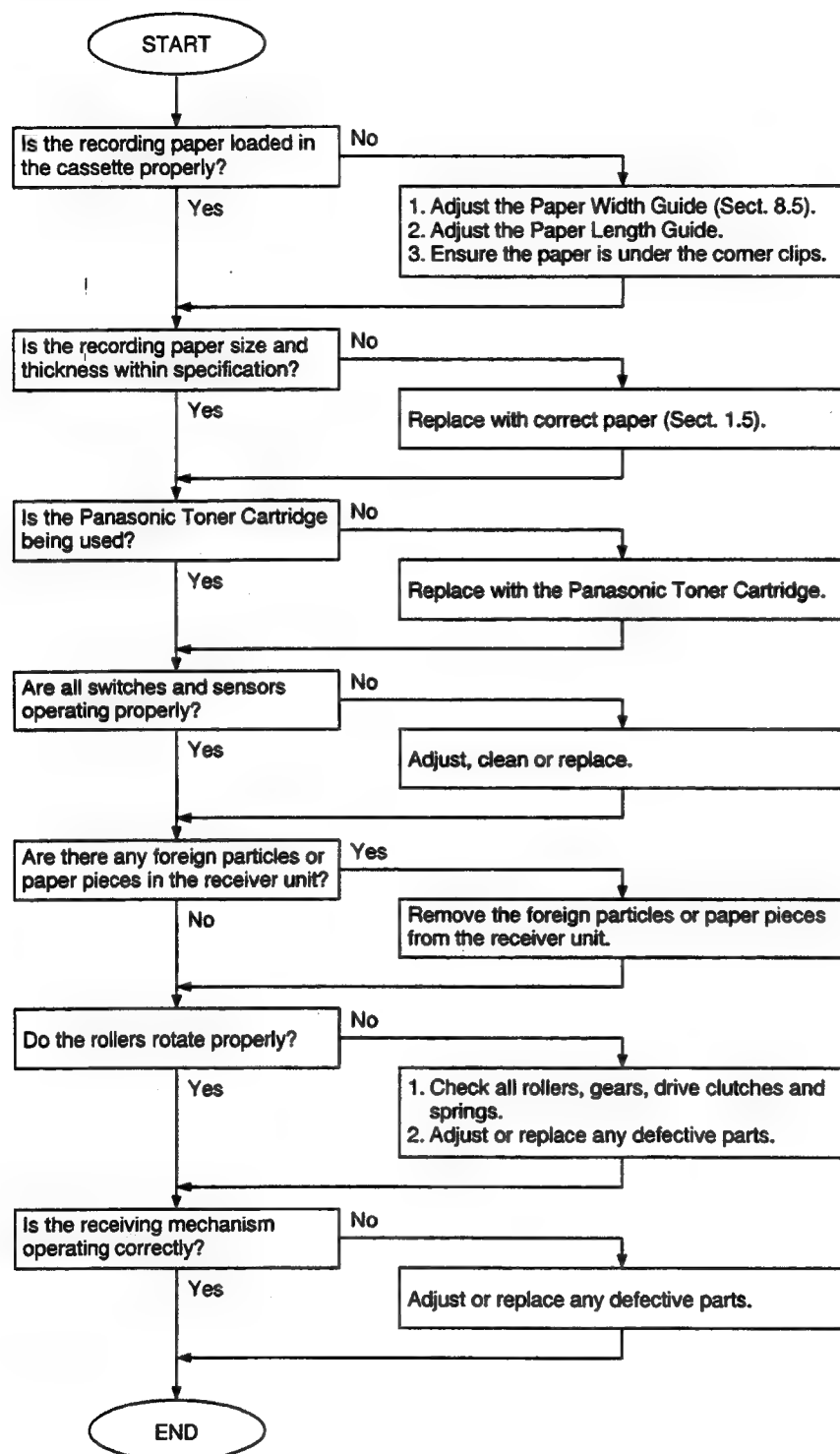
#### 4.4.13 Recording Paper Creases



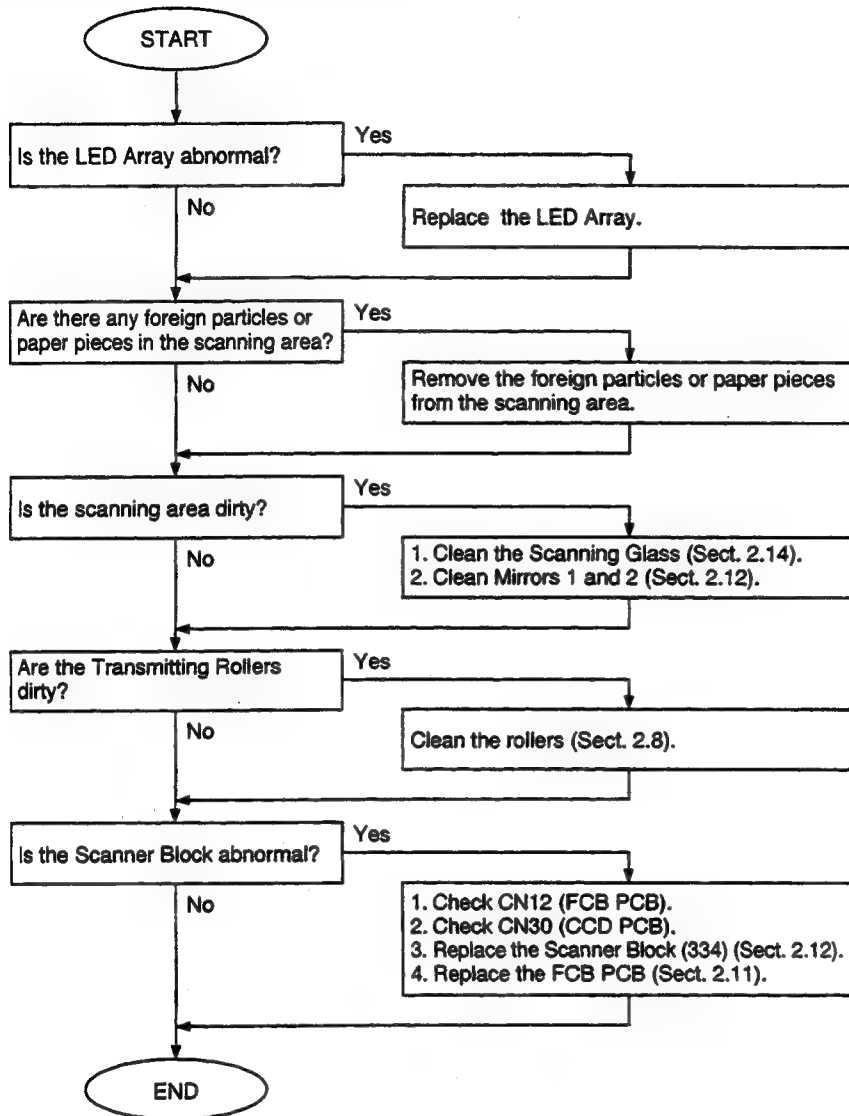
#### 4.4.14 Poor Printed Copy Quality



# 4.4.15 Abnormal Printing

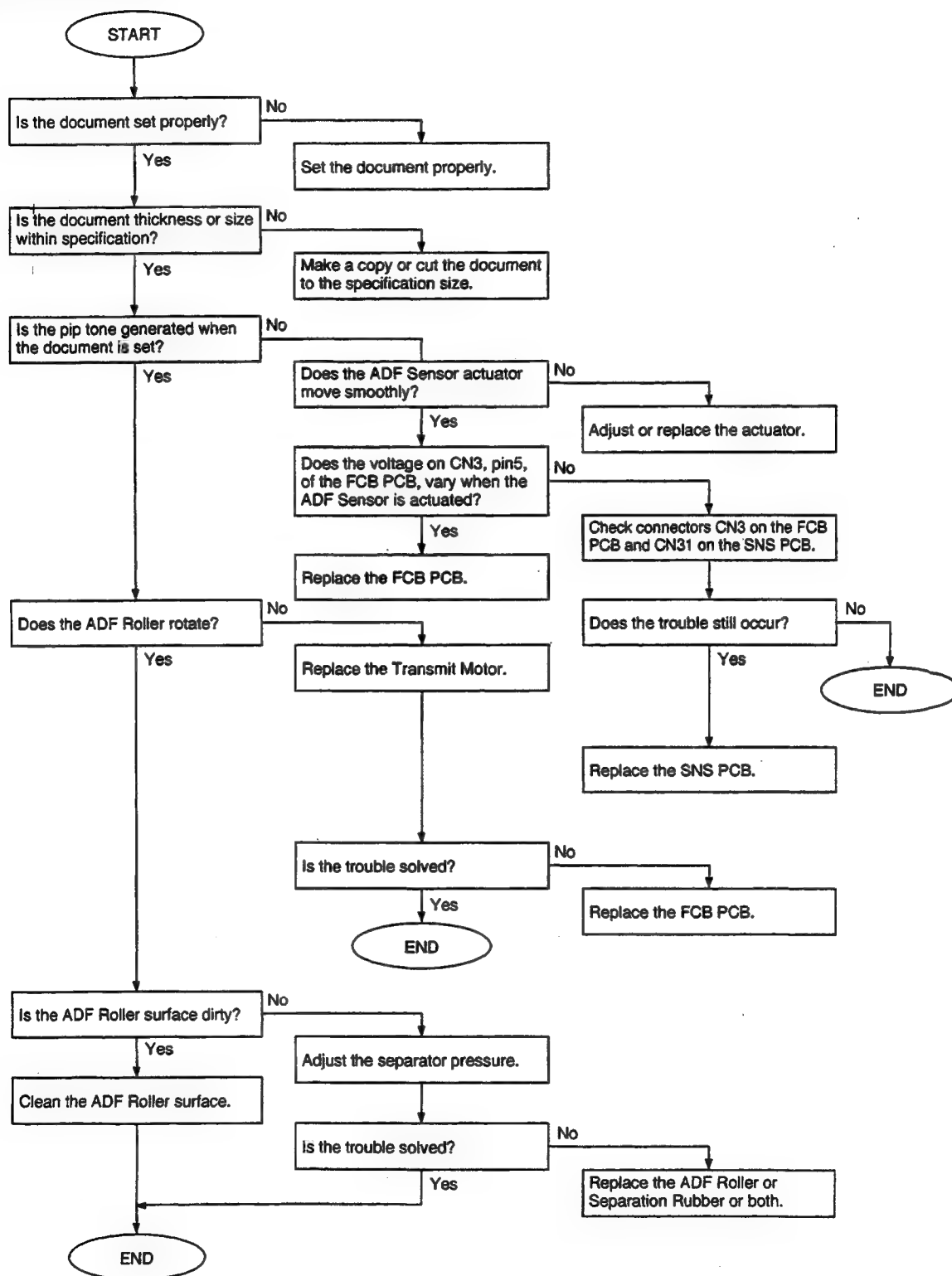


#### 4.4.16 Scanned Copy Quality Problems



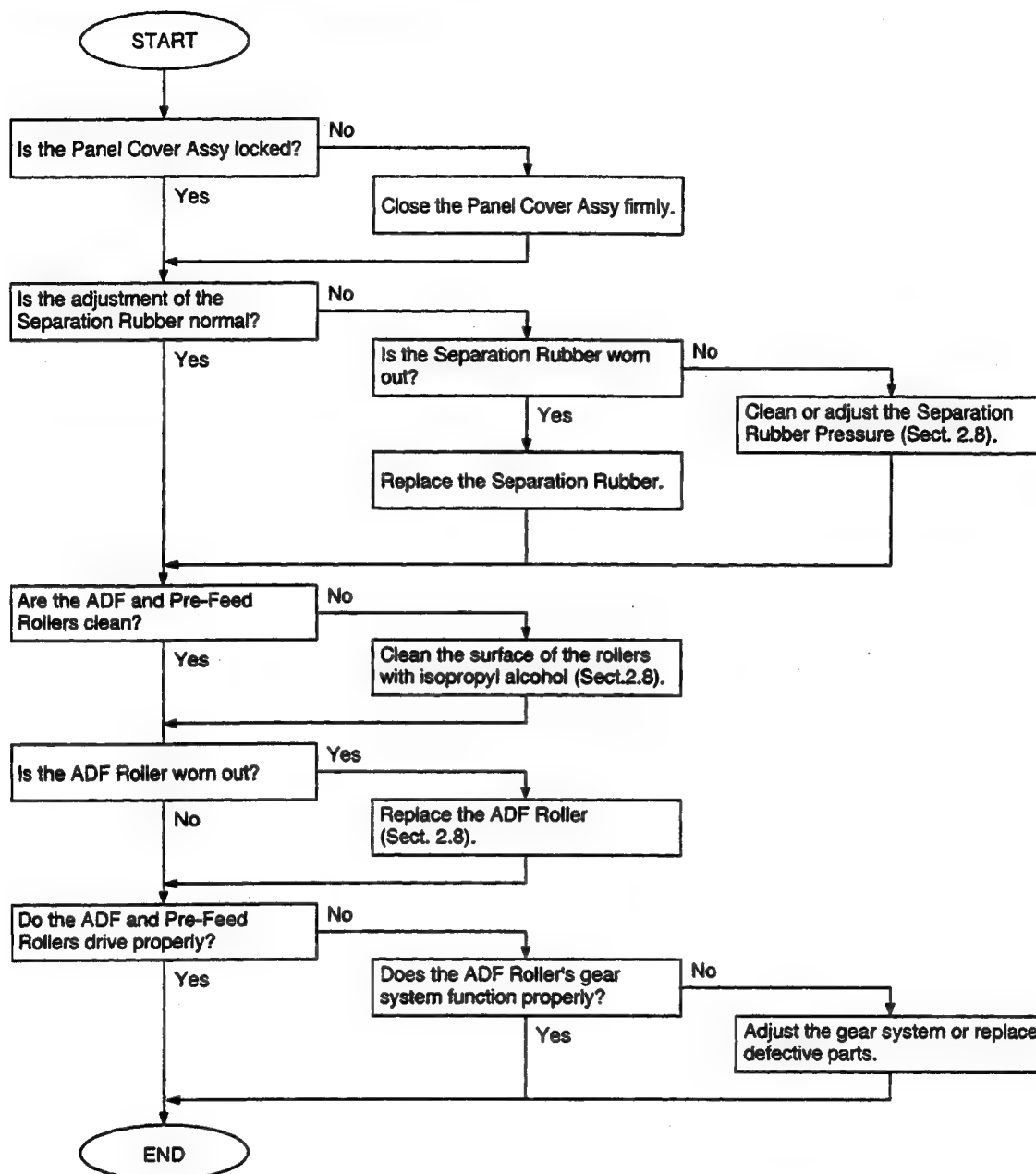
## 4.5 Document Feeder (ADF)

### 4.5.1 No Document Feed

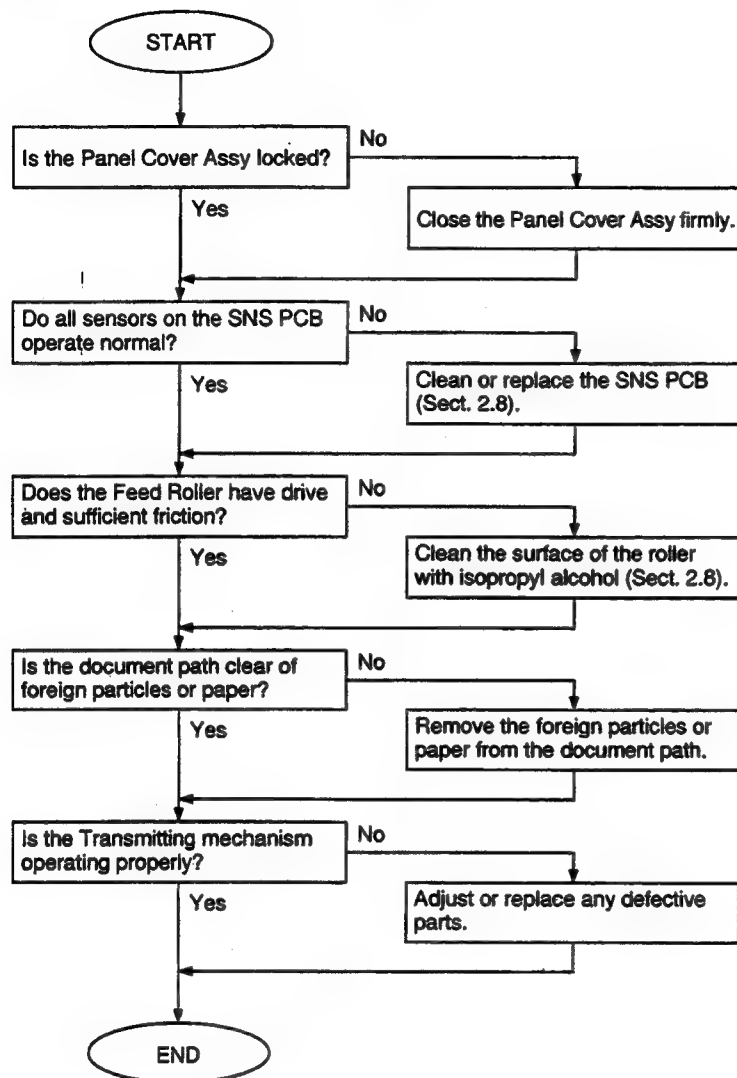




## 4.5.2 Document does not feed or Multiple feeds



### 4.5.3 Document Jam (030) or Skewing

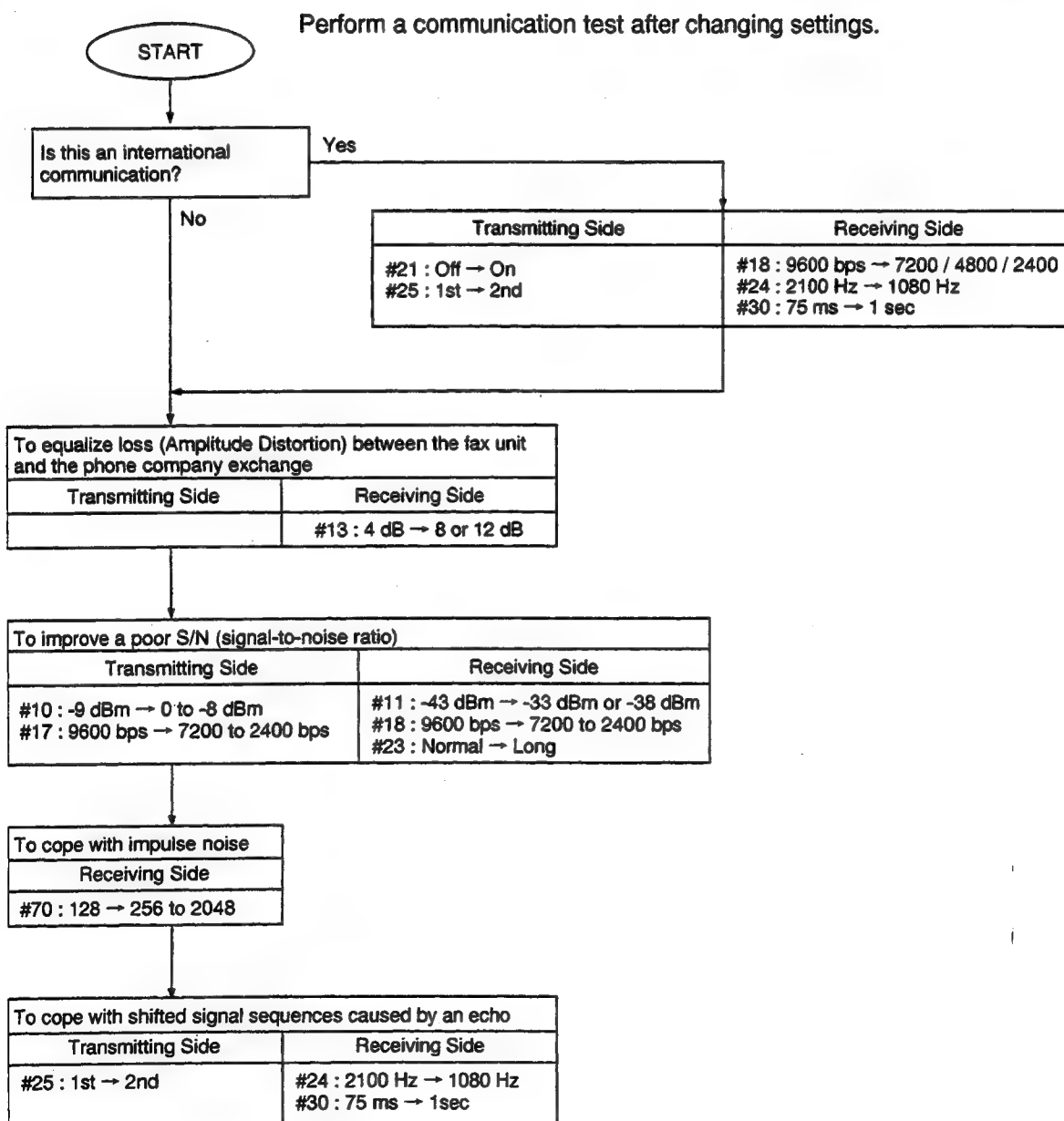


## 4.6 Communications

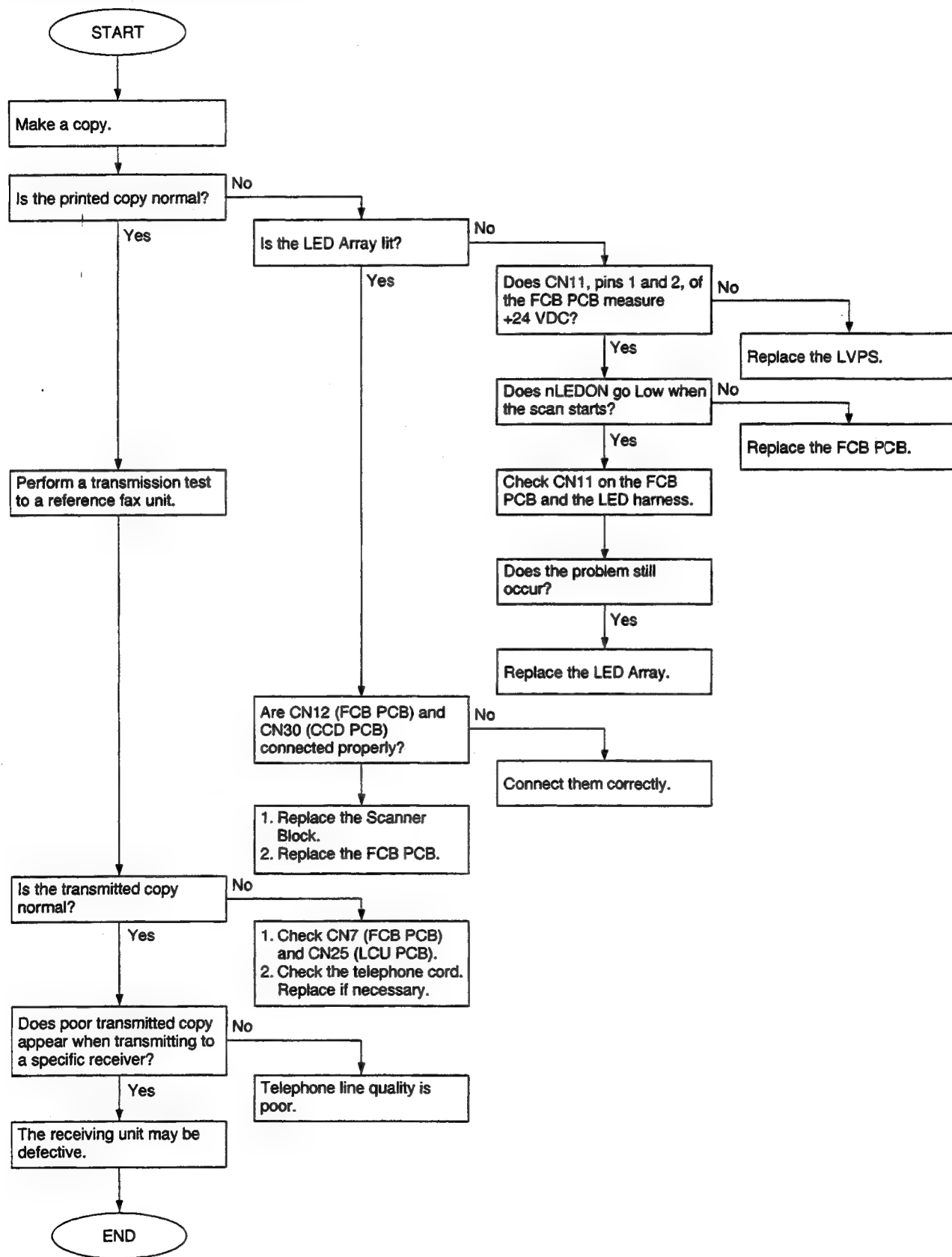
This section explains general troubleshooting procedures for the 400 series of Information Codes. These errors are primarily caused by poor telephone line quality (loss, noise, echo, etc.). This unit is furnished with Test Mode 1 to assist in troubleshooting line quality problems.

It is suggested that both the transmitting unit and receiving unit be adjusted. This section gives relevant parameters in Test Mode 1 for both the transmitting and receiving sides. If no improvement is realized after the parameters are adjusted, it is recommended that the parameters be returned to the default settings.

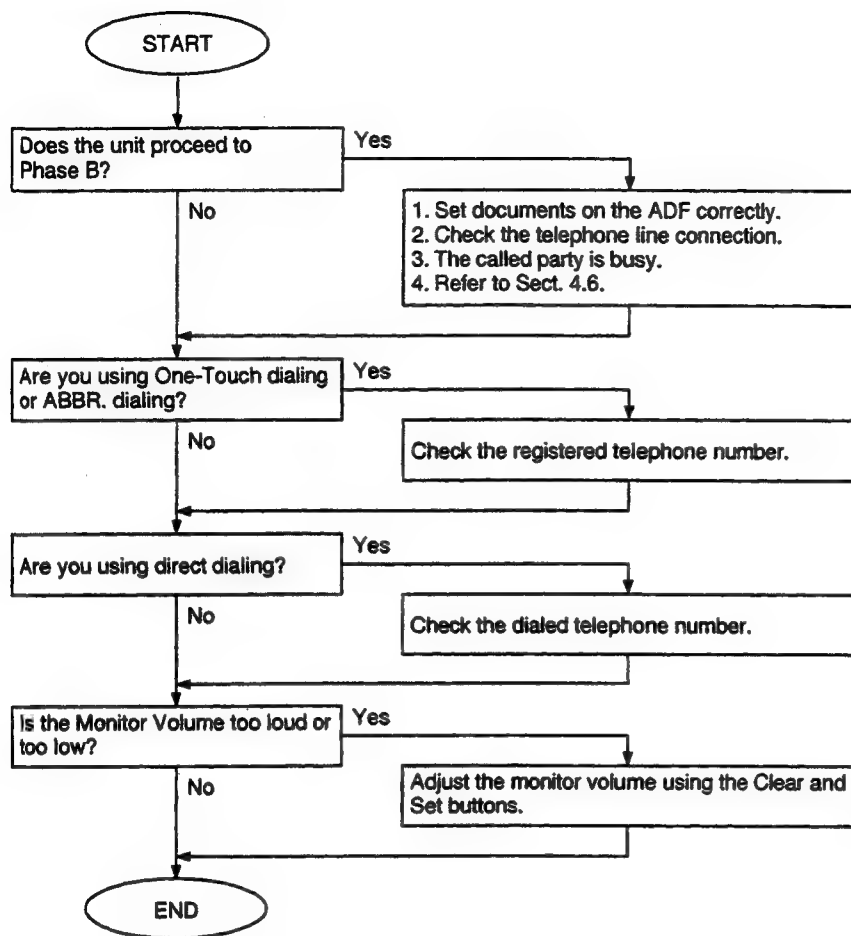
### 4.6.1 Communication Trouble



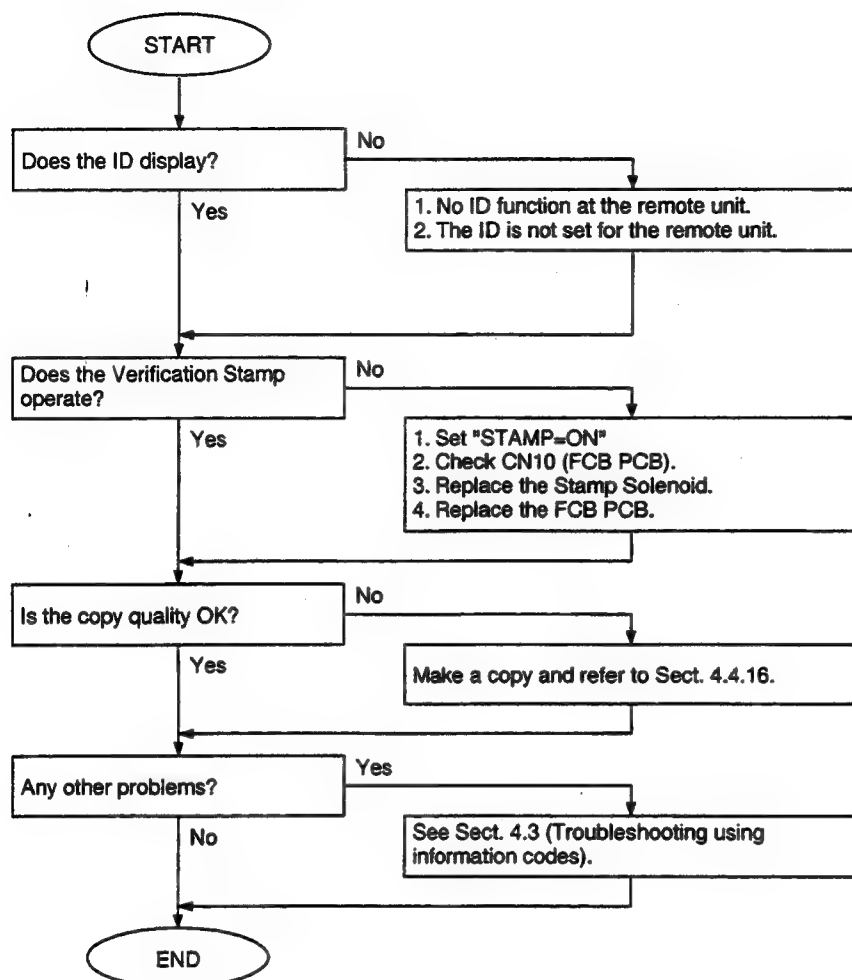
## 4.6.2 Poor Transmitted Copy Quality



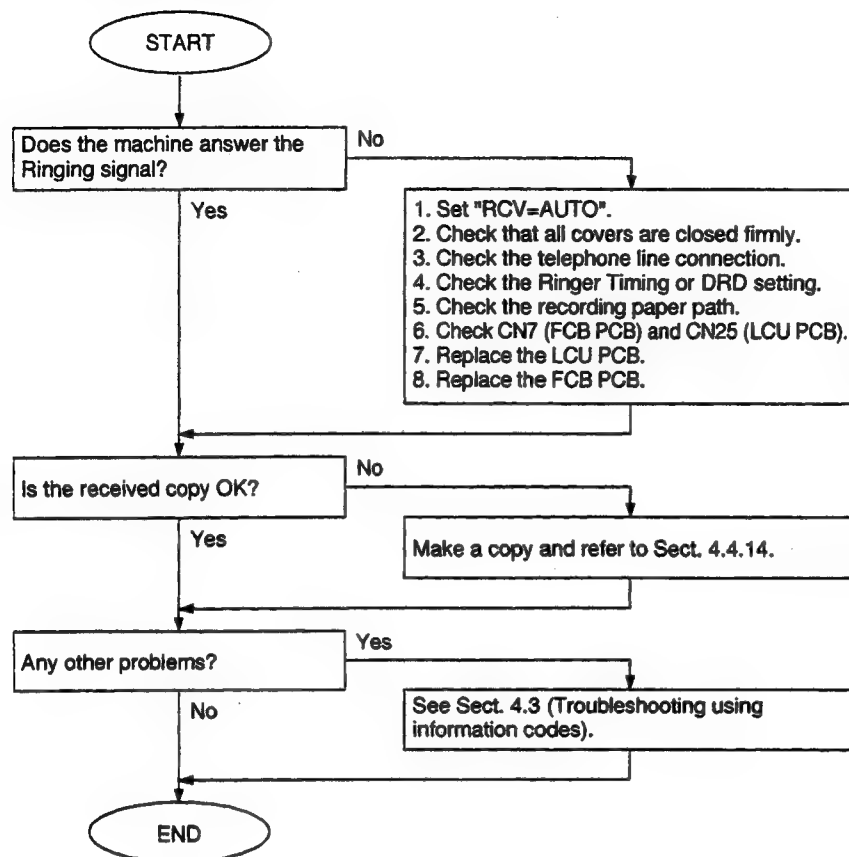
### 4.6.3 Dialing Problems



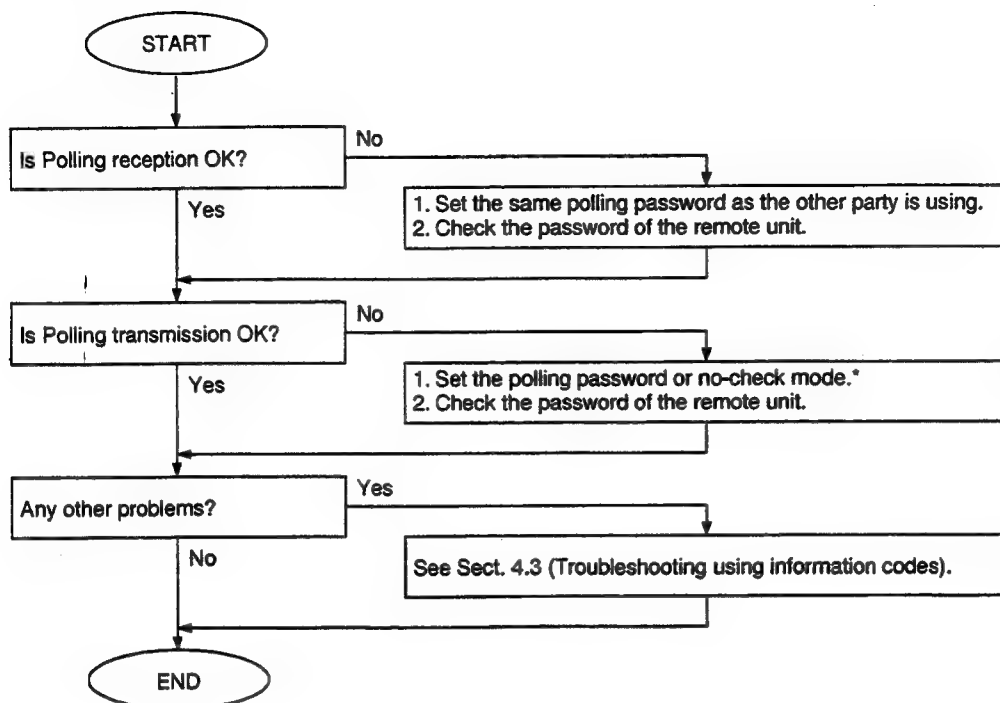
# 4.6.4 Transmission Problems



#### 4.6.5 Reception Problems



## 4.6.6 Polling Problems



**Note:** No-check Mode means that the password is not set.



## 4.7 Information Code Table

Information Codes				
Code	Mode	Phase	Description of Problem	Cause
001	RCV COPY	C D	Leading edge of the recording paper fails to reach the Timing Sensor.	Recording paper jam Timing Sensor abnormal
002	RCV COPY	C D	1. Leading edge of the recording paper fails to reach the Eject Sensor. 2. Recording paper has not completely passed the Eject Sensor.	Recording paper jam Eject Sensor abnormal
010	RCV COPY	B C	No recording paper.	No recording paper or paper is not set properly No Paper Sensor is defective.
011	STANDBY		Paper Cassette is not installed properly.	
012	RCV	C D	The length of the received document is over 380 mm. (Used in France only)	
017	RX COPY	—	The recording paper size setting does not match. (UF-550 only)	
021	STANDBY RX COPY	B C D	Fuser unit or Fan abnormal	Defective FCB PCB Defective Fuser Unit, LVPS or Fan
030	XMT	B	Read Point Sensor does not go ON within 10 seconds after the document starts feeding.	Document is not set properly Defective Read Point Sensor
031	XMT COPY	C	Transmitting document was longer than 2,000 mm (or 78.7 in).	The document may jam Defective Read Point Sensor
041	STANDBY RX COPY	B C D	Out of toner	No toner Defective Toner Sensor
043	STANDBY RX COPY	B C D	Low Toner	Toner is getting low Defective Toner Sensor
045	STANDBY	—	No Toner Cartridge	Toner cartridge has not been installed Defective Toner Sensor (Cartridge Sensor)
054	STANDBY RX COPY	—	Laser motor abnormal	Defective Laser Unit
055	STANDBY RX COPY	—	No response of LBP CPU on FCB	Defective FCB PCB
058	—	A	Interface error occurs with the 500-sheet optional cassette feeder.	Defective CST3 PCB.
060	—	A	Printer Cover open	Cover is not firmly closed Connectors are not firmly connected
061	—	A	ADF Door open	Cover is not firmly closed Connectors are not firmly connected.
063	—	A	Jam Access Cover open	Cover on the optional 2nd cassette is not closed.
064	—	A	Jam Access Cover open	Cover on the optional 3rd cassette is not closed. [UF-770: and UF-880 only]
211	XMT	C	Transmission of the data from modem was stopped	Modem is defective (FCB PCB) [UF-880: MDM PCB]
212	XMT RCV	A-E	Interface error occurred between the CPU and modem	Modem is defective (FCB PCB) [UF-880: MDM PCB] Software problem occurred (FCB PCB) [UF-880: MDM PCB]
220	RCV	C	Receiver could not detect RTC at the end of Phase C	Line quality is poor. (RTC is distorted due to line noise)
221				
301	XMT RCV		System fault	Software problem occurred (FCB PCB)
331	XMT	C	8-minute timer error (Germany only)	

Information Codes				
Code	Mode	Phase	Description of Problem	Cause
400	XMT	B	T1 timer (35 ± 5 sec) elapsed without detecting 300 bps signal	Wrong number is dialed and the START button is pushed Telephone line is disconnected while dialing FCB PCB [UF-880: MDM PCB] (Modem) or LCU PCB is defective Receiver is defective (It may only be transmitting CED.)
401	XMT	B	DCN was returned from receiver while transmitter is waiting for CFR or FTT.	No mailbox available in the receiver Possible incompatibility (Password Transmission)
402	XMT	B	DCN was returned from receiver while transmitter is waiting for NSF/DIS.	Receiver working in non-CCITT mode only (Possible incompatibility)
403	RCV (POLLING)	B	Transmitter had no polling function.	"POLLED=ON" (polling XMT ready) is not set at the transmitter Document to be transmitted is not placed at the transmitter
404	XMT	B	Transmitter sent NSS (or DCS) followed by TCF three times, but the receiver did not respond. (CFR or FTT is usually returned.)	Receiver is defective (Modem, LCU PCB, etc.) FCB PCB or LCU PCB is defective Receiver disconnects line during first NSS (or DCS) is transmitted
405	XMT	B	Transmitter received FTT after it transmitted TCF at 2400 bps. Received RTN after communicating at 2400 bps.	Line quality is poor. (TCF is damaged due to line noise.) Receiver is defective (Modem, LCU PCB, etc.) FCB PCB or LCU PCB is defective
406	RCV (Password Comm.)	B	XMT-Password mismatched. RCV-Password mismatched. Selective RCV incomplete.	XMT, RCV password does not match Last 4 digits of TSI does not match with the last 4 digits of ONE-TOUCH, ABBR telephone number.
407	XMT	D	Transmitter received no response after it transmitted post message, such as EOP, MPS, EOM, etc. Or received DCN.	Receiver is defective (No paper, paper jamming, etc.) Receiver ceased receiving because of excessive error (Line quality is poor.) FCB PCB [UF-880: MDM PCB] (Modem) or LCU PCB is defective
408	XMT	D	Transmitter received RTN after it transmitted EOP, MPS, or EOM.	Receiver receives data with error. (Line quality is poor.) Receiver is defective (Modem, LCU, etc.) FCB PCB or LCU PCB is defective
409	XMT	D	Transmitter receives PIN after it transmitted a post message, such as EOP, MPS, EOM, etc.	Receiver receives data with error due to poor line quality, and receiving operator requests voice contact Receiver is defective (Modem, LCU, etc.) FCB PCB or LCU PCB are defective
410	RCV	D	Received DCN while waiting for post command (EOP, MPS, EOM, etc.)	Interface or line is faulty Transmitter is defective
411	RCV (Polling)	B	Received DCN after transmitting NSC	Transmitter is not ready for polling communication Password does not match between transmitter and receiver
412	G3 RX	B D	No response within 12 seconds in NSS/DCS/MPS wait state. (After transmitting FTT, MCF, or CFR)	Transmitter is defective FCB PCB is defective
414	RCV (Polling)	B	No response received after transmitting 3rd NSC.	Password does not match between transmitter and receiver Transmitter is defective (No document, document jam, etc.)
415	XMT (Polling)	B	Remote side attempted to receive message from your machine in polling communication. "Inform the remote side that your machine does not have the polling transmission feature."	
416	RCV	D	Receiver did not detect post command, such as EOP, MPS, EOM, etc.	Transmitter is defective Line quality is poor (RTC signal is distorted due to line noise.) FCB PCB or LCU PCB are defective

Information Codes				
Code	Mode	Phase	Description of Problem	Cause
417	RCV	C	Receiver returned RTN in response to post message.	Line quality is poor. (There are excessive errors in received data.) FCB PCB or LCU PCB are defective
418	RCV	C	Receiver transmitted PIN in response to PRI-Q from transmitter. (Transmitting operator requests voice contact)	Line quality is poor (There are excessive errors in received data.) FCB PCB or LCU PCB are defective
420	RCV	B	T1 timer (35 sec.) elapsed without detecting 300 bps signal. (The 420 code is not displayed on the panel.)	There is a wrong incoming call (non-facsimile communication.) Transmitter is defective FCB PCB or LCU PCB is defective
422	XMT	B	Content of NSF (or DIS) or NSC (or DTC) was invalid.	There is an incompatibility
427	G3 RCV	B	DCN received to NSF/CSI/DIS transmitted.	The interface is incompatible
434	XMT or RCV	B	CD (response from Modem) did not turn OFF within 180 sec. after receiver detected FLAG signal.	Remote unit is defective FCB PCB or LCU PCB is defective
436	G3 RX	C	DCN received after transmitting FTT.	Transmitter is defective or incompatible Line quality is poor
456	RCV	B	Received relay transfer request or confidential document to distribute to a end receiving station or all confidential mailboxes are used.	
457	RELAY XMT CONF. XMT/POLL	B	Remote unit does not have Relayed XMT or Confidential Comm. capability.	
459	RCV	C	Failed training in Phase C.	Line quality is poor (Training signal is distorted due to line noise.) FCB PCB or LCU PCB are defective
490	RCV	C	Sum of error line exceeded the limit (Parameter 70) by 64 lines.	Line quality is poor FCB PCB or LCU PCB are defective
494	RCV	C	Interval between two EOLs was more than 10 sec. when receiver received message data.	Transmitter is defective Line quality is poor (EOL is damaged due to line noise.) FCB PCB or LCU PCB are defective
495	XMT/RCV	C	During reception, CD turned OFF or continued ON for long time. During communication, lost loop-current.	Line is disconnected Transmitter is defective FCB PCB or LCU PCB are defective
496	XMT	C	CS of modem is not able to turn ON.	FCB PCB is defective
497	XMT	B	CS of modem is not able to turn ON during training.	FCB PCB is defective
501	XMT/RCV (V.34)	B	Remote unit does not have Modem compatibility.	
502	XMT/RCV (V.34)	B, C, D	During reception, CD turned OFF or continued ON for long time. During communication, lost loop-current.	Line is disconnected Transmitter is defective FCB PCB or LCU PCB are defective
503	XMT/RCV (V.34)	B, C, D	CS of modem is not able to turn ON during training.	FCB PCB is defective
540	XMT ECM	B	No response after transmitting 3rd CTC.	Incompatible interface
541	XMT ECM	D	No response after transmitting 3rd EOR or received DCN.	Line is faulty LCU PCB abnormal
542	XMT ECM	D	No response to the 3rd RR transmitted or received DCN.	Remote unit is abnormal
543	XMT ECM	D	T5 timer (60 sec) elapsed without MCF.	Remote unit is abnormal
544	XMT ECM	D	Stopped Transmission after EOR Transmission.	Line is faulty LCU PCB abnormal
554	RCV ECM	D	Transmitted ERR after receiving EOR.	Faulty line
555	RCV ECM	D	Transmitted PIN after receiving EOR.	Faulty line and Operator Call requested by RX side
570	RCV	B	Password or machine code did not match during remote diagnostic communication.	
571	XMT	B	Remote unit did not have the remote diagnostic function.	

Information Codes				
Code	Mode	Phase	Description of Problem	Cause
572	XMT	C	There was no response while machine transmitted the data during remote diagnostic communication.	Remote unit is defective
573	RCV	C	Unit could not receive the data from remote unit during remote diagnostic communication.	Remote unit is defective
580	XMT	B	Sub-address transmission to a unit that has their DIS bit 49 (NSF bit 155) OFF.	Sub-address transmission to a unit that has no Sub-address function.
581	XMT	B	Sub-address Password transmission to a unit that has their DIS bit 50 (NSF bit 156) OFF.	Sub-address transmission to a unit that has no Sub-address function.
601	XMT		ADF Door was opened during ADF transmission.	
623	XMT	A	No document was in the ADF. (Built-in dialer engaged)	Operator removed the document from the ADF after dialing was completed Document is not set properly in the ADF
630	XMT or RCV (Polling)	B	Redial count over	No dial tone detected Second dial tone is not detected (country dependent) Busy tone is detected (country dependent) T1 timer (35 ± 5 sec) elapsed without a signal from the receiver
631	XMT	A	"STOP" button was pressed during Auto Dialing.	
634	XMT		Redial count over with no response.	
638	XMT		Power turned off with applicable data in memory or during communication.	Power switched off Power failure occurred
870	Mem. XMT Multi-copy		Memory overflow. File register full.	
879	Mem. RCV		Memory overflow during memory reception or substitute reception.	
962			Memory file access error	FCB PCB is defective
975	Initial test		Memory parity error	Memory card was installed or removed when data was in the DRAM on the FCB PCB or a power failure has occurred while data was stored in the memory. (DRAM battery backup is not available on UF-550)
995	Conf. XMT Conf. Polling, Relay Request		Parameter setting for Relay Comm. or Conf. Comm is invalid.	

## 4.8 Diagnostic Codes

The 13-digit Diagnostic Code is provided for the service engineer to analyze how the communication was performed. The code is recorded on the Journal.

### Journal Example

```
***** -JOURNAL- ***** DATE JAN-12-1997 ***** TIME 11:49*****
```

NO.	COM	PAGES	FILE	DURATION	X/R	IDENTIFICATION	DATE	TIME	DIAGNOSTIC
01	OK	001	129	00:00'29	RCV	123 456 789	JAN-12	15:10	C0542B0337000
02	OK	005	130	00:04'01	XMT	2015551212	JAN-12	16:00	C8444B0337000

1st Digit → 13th Digit →

-PANASONIC PANAFAX UF- XXX -

\*\*\*\*\* -PANAFAX UF-XXX - \*\*\*\*\* -12345678901234567890- \*\*\*\*\*

### 1st Digit: Manufacturer Code

:- Not used/defined

Data	Definition			
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

**2nd Digit**

:- Not used/defined

Data	Definition			
	DCN	STOP Button	Voice Contact	Built-in Dialer
0	—	—	—	—
1	Received	—	—	—
2	—	Pressed	—	—
3	Received	Pressed	—	—
4	—	—	Requested	—
5	Received	—	Requested	—
6	—	Pressed	Requested	—
7	Received	Pressed	Requested	—
8	—	—	—	Used
9	Received	—	—	Used
A	—	Pressed	—	Used
B	Received	Pressed	—	Used
C	—	—	Requested	Used
D	Received	—	Requested	Used
E	—	Pressed	Requested	Used
F	Received	Pressed	Requested	Used

**3rd Digit**

:- Not used/defined

Data	Definition			
	Receive Start	ID (TSI, CSI or CIG)	Polling TX in Turnaround Polling	
0	—	—	—	
1	Automatic	—	—	
2	Manual	—	—	
3	—	—	—	
4	—	Received	—	
5	Automatic	Received	—	
6	Manual	Received	—	
7	—	—	—	
8	—	—	Used	
9	Automatic	—	Used	
A	Manual	—	Used	
B	—	—	—	
C	—	Received	Used	
D	Automatic	Received	Used	
E	Manual	Received	Used	
F	—	—	—	

## 4th Digit

-: Not used/defined

Data	Definition			
	Relayed XMT	Short Protocol	Password XMT	Deferred Comm.
0	—	—	—	—
1	—	—	—	Used
2	Used	—	—	—
3	—	—	—	—
4	—	Used	—	—
5	—	Used	—	Used
6	Used	Used	—	—
7	—	—	—	—
8	—	—	Used	—
9	—	—	Used	Used
A	Used	—	Used	—
B	—	—	—	—
C	—	Used	Used	—
D	—	Used	Used	Used
E	Used	Used	Used	—
F	—	—	—	—

## 5th Digit

-: Not used/defined

Data	Definition			
	Polling RCV	RCV	XMT	Turnaround Polling Mode
0	—	—	—	—
1	Used	—	—	—
2	—	Used	—	—
3	—	—	—	—
4	—	—	Used	—
5	—	—	—	—
6	—	—	—	—
7	—	—	—	—
8	—	—	—	Used
9	—	—	—	—
A	—	Used	—	Used
B	—	—	—	—
C	—	—	Used	Used
D	—	—	—	—
E	—	—	—	—
F	—	—	—	—

**6th Digit**

-: Not used/defined

Data	Definition			
	ECM	G3/G3-N	Memory Comm.	
0	—	—	—	
1	—	—	—	
2	—	—	—	
3	—	—	—	
4	—	G3 Std	—	
5	Used	G3 Std	—	
6	—	G3 Std	Used	
7	Used	G3 Std	Used	
8	—	G3 N-Std	—	
9	Used	G3 N-Std	—	
A	—	G3 N-Std	Used	
B	Used	G3 N-Std	Used	
C	—	—	—	
D	—	—	—	
E	—	—	—	
F	—	—	—	

**7th Digit**

-: Not used/defined

Data	Definition			
	V.24 Mode	Encryption Mode		
0	—	—		
1	—	—		
2	—	—		
3	—	—		
4	—	Used		
5	—	—		
6	—	—		
7	—	—		
8	Used	—		
9	—	—		
A	—	—		
B	—	—		
C	—	—		
D	—	—		
E	—	—		
F	—	—		



## 8th Digit

-: Not used/defined

Data	Definition			
	Resolution	Coding		
0	—	—		
1	—	—		
2	STD	MH		
3	STD	MMR		
4	FINE	MH		
5	FINE	MMR		
6	S-FINE	MH		
7	S-FINE	MMR		
8	—	—		
9	—	—		
A	STD	MR		
B	—	—		
C	FINE	MR		
D	—	—		
E	S-FINE	MR		
F	—	—		

## 9th Digit: Manufacturer Code

-: Not used/defined

Data	Definition			
	Modem Speed	Symbol Rate (V.34)	Polling TX	
0	2400 bps	2400 sr	—	
1	4800 bps	—	—	
2	7200 bps	2800 sr	—	
3	9600 bps	3000 sr	—	
4	TC7200 bps	3200 sr	—	
5	TC9600 bps	3429 sr	—	
6	12000 bps	—	—	
7	14400 bps	—	—	
8	2400 bps	2400 sr	Yes	
9	4800 bps	—	Yes	
A	7200 bps	2800 sr	Yes	
B	9600 bps	3000 sr	Yes	
C	TC7200 bps	3200 sr	Yes	
D	TC9600 bps	3429 sr	Yes	
E	12000 bps	—	Yes	
F	14400 bps	—	Yes	

## Note: (UF-880)

When 11th Digit is "0", 9th Digit indicates Modem Speed V.27ter, V.29, V.33, V.17.

When 11th Digit is not "0", 9th Digit indicates Symbol Rate V.34.

**10th Digit (UF-880)**

~: Not used/defined

Data	Definition			
	Scanning Rate	Coding		
0	20 ms / line	—		
1	5 ms / line	—		
2	10 ms / line	—		
3	—	—		
4	40 ms / line	—		
5	—	—		
6	—	—		
7	0 ms / line	—		
8	—	—		
9	—	—		
A	—	—		
B	—	—		
C	—	—		
D	—	—		
E	—	—		
F	0 ms / line	JBIG		

**11th Digit (UF-880)**

~: Not used/defined

Data	Definition			
	Modem Speed (V.34)			
0	not V.34			
1	2400 bps			
2	4800 bps			
3	7200 bps			
4	9600 bps			
5	12000 bps			
6	14400 bps			
7	16800 bps			
8	19200 bps			
9	21600 bps			
A	24000 bps			
B	26400 bps			
C	28800 bps			
D	31200 bps			
E	33600 bps			
F	—			

**Note: (UF-880)**

When 11th Digit is "0", 9th Digit indicates Modem Speed V.27ter, V.29, V.33, V.17.

When 11th Digit is not "0", 9th Digit indicates Symbol Rate V.34.

## 12th Digit

-: Not used/defined

Data	Definition			
	Confidential Comm.	RTN Received		
0	—	—		
1	Yes	—		
2	—	—		
3	—	—		
4	—	—		
5	—	—		
6	—	—		
7	—	—		
8	—	Yes		
9	Yes	Yes		
A	—	—		
B	—	—		
C	—	—		
D	—	—		
E	—	—		
F	—	—		

## 13th Digit: Always "0"

-: Not used/defined

Data	Definition			
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
A				
B				
C				
D				
E				
F				

## **Chapter 5**

### **Test Modes**

## **5.1 Test Mode Table**

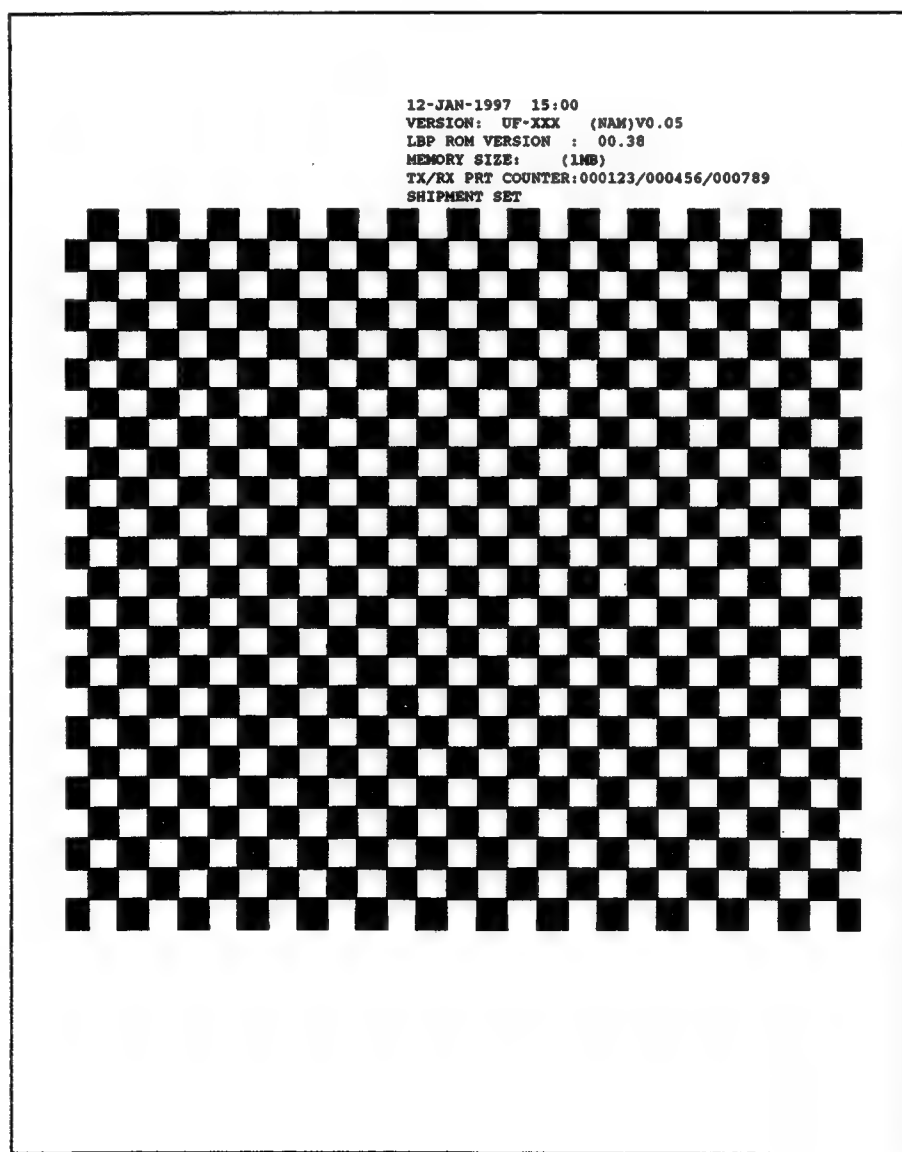
The following test modes are provided to assist you in setting operational functions of the unit and determining the condition of the unit.

<b>No.</b>	<b>Test Mode</b>	<b>Description</b>
0	Page Memory Test	Prints a test pattern to check the page memory and printer mechanism.
1	Function Parameter Setting	Changes the function parameters (the home position, etc.).
2	Not Used	
3	Function Parameter List Printout	Prints a list of all function parameters.
4	Binary Signal Generation	Generates various binary signals, by the modem.
5	Tonal Signal Generation	Generates various tonal signals, by the modem.
6	RAM Initialization	Initialize RAM and restore the default value of the function parameters.
7	DTMF Signal Generation	Generates various DTMF signals for dialing.
8	Not Used	
9	RAM Test (Doc. Mem. Test)	Checks the Document Memory DRAM.
10	LED, LCD and CCD Test	Checks the LED, LCD and CCD.
11	Not Used	
12	LBP Service Mode	Changes the Printer Parameters (the home position, etc.).

## 5.2 Test Mode 0 (Page Memory Test)

A test pattern is printed out for checking the page memory (IC 1,17 on the FCB PCB) and printer mechanism using the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1997 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR √ ^
3	Press "MONITOR" four times, then press "*".	TEST MODE NO.=_ (ENTER 0-12)
4	Press "0" and "START".	* PRINTING * PAGE MEMORY TEST
5	After printing is completed, the unit returns to the display of step 3.	TEST MODE NO.=_ (ENTER 0-12)
6	Press "STOP" to return to standby.	12-JAN-1997 15:00 00%



### 5.3 Test Mode 1 (Function Parameter Setting)

Use the following procedure to change function parameters.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1997 15:00 00%
2	Press <b>"FUNCTION"</b> and then <b>"7"</b> .	SET MODE (1-6) ENTER NO. OR ∨ ∧
3	Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .	TEST MODE NO.=_ (ENTER 0-12)
4	Press <b>"1"</b> and <b>"START"</b> .	TEST MODE (00-99) ENTER TEST MODE #
5	Enter the Function Parameter Number. Ex: Changing <b>"ALARM STATUS"</b> — Enter <b>"01"</b>	TEST MODE #01 ALARM STATUS ?
6	Press <b>"START"</b> .	ALARM STATUS:Timer 1:Timer 2:Constant
7	Enter the new setting value. Ex: Enter <b>"2"</b> for Constant.	ALARM STATUS:Const. 1:Timer 2:Constant
8	Press <b>"START"</b> . The new value will be stored and the next parameter will be displayed.	TEST MODE #02 ** NO JOB **
9	Repeat steps 5 through 8 to change other Function Parameters, or press <b>"STOP"</b> to return to standby.	12-JAN-1997 15:00 00%

**Note:** The following buttons provide these functions in the test mode:

**"START"**: The new setting value is stored in the machine.

**"∧"**: Scroll the function parameter number up.

**"∨"**: Scroll the function parameter number down

Function Parameter Table				
No.	Parameter	Selections		Function
00	MON/TEL DIAL	1 = Monitor		Selects whether or not the machine starts TX automatically on On-Hook dialing. (Monitor: Start TX after pressing START) (TEL/DIAL: Start TX automatically)
		2 = TEL/DIAL		
01	ALARM STATUS	1 = Timer (6 sec.)		Selects No Paper or NoToner alarm. If CONSTANT, the alarm will not stop until "STOP" is pressed or the error is cleared.
		2 = Constant		
02	STOP COMM. JRNL	1 = Off		Selects whether the machine prompts to print the COMM. Journal when the printout condition is set to INC and STOP is pressed during communication.
		2 = On		
03	CONTINUOUS POLL	1 = Off		Selects the Continuous Polling feature: Stn (Tx Only) - to be polled directly from ADF when document is set. Hub - to poll a group of Stations Continuously until it is manually stopped.
		2 = Stn (Tx only)		
		3 = Hub		
04	NUMERIC ID SET	1 = Off (will not accept)		Selects whether or not the machine accepts to set or change Numeric ID.
		2 = On (accepts)		
05	Not used			
06	ID DISPLAY	1 = Number (Numeric ID)		Selects the priority of displaying ID.
		2 = Chara (Character ID)		
07	JNL COLUMN	1 = Preset station name		Selects contents of ID column on Journal.
		2 = Received ID		
08	MONITOR	1 = Off		Selects Monitor ON/OFF for monitoring fax signals. (FOR SERVICE USE ONLY)
		2 = On		
09	DC LOOP	1 = Off (normal)		Selects a false Off Hook state for back to back communication test.
		2 = On (Off Hook)		
10	TX LEVEL	00 = 0 dBm		Selects signal output level, 0 to -15 dBm in 1dBm steps. (Refer to Chapter 4.3.3~4.3.5)
		~		
		15 = -15 dBm		
11	RX LEVEL	1 = -43 dBm		Selects receiving sensitivity of -33/-38/-43/-48 dBm. (Refer to Chapter 4.3.3~4.3.5)
		2 = -38 dBm		
		3 = -33 dBm		
		4 = -48 dBm		
12	DTMF LEVEL	00 = 0 dBm		Selects DTMF output level, 0 to -15 dBm in 1dBm steps.
		~		
		15 = -15 dBm		
13	G3 RX EQL	UF-770	1 = Off	Selects whether the cable equalizer in G3 reception mode is On or Off.
			2 = On	
		UF-880	1 = 0 dB	Selects the cable equalizer in G3 reception level, 0, 4, 8 or 12 dB.
			2 = 4 dB	
			3 = 8 dB	
14	Not used		4 = 12 dB	
15	G3 TX EQL	UF-770	Not used	Selects the cable equalizer in G3 transmission level, 0, 4, 8 or 12 dB.
			1 = 0 dB	
		UF-880	2 = 4 dB	
			3 = 8 dB	
			4 = 12 dB	
16	PRINT COUNTER	1 = Off		Selects whether to print in the Fax Parameter List, the counter information that is displayed in the Function Parameter No. 61.
		2 = On		
17	TX START	UF-770	1 = 2400 bps	Selects transmission modem start speed, 14400/12000/TC9600/TC7200/9600/7200/4800/2400 bps.
			2 = 4800 bps	
			3 = 7200 bps	
			4 = 9600 bps	
			5 = TC7200 bps	
			6 = TC9600 bps	
			7 = 12000 bps	
			8 = 14400 bps	
		UF-880	2400~33600 bps	Selects transmission modem start speed, 33600~2400 bps. Press "v" or "x" to select displayed speed.
18	RX START	UF-770	1 = 2400 bps	Selects receiving modem start speed, 14400/12000/TC9600/TC7200/9600/7200/4800/2400 bps.
			2 = 4800 bps	
			3 = 7200 bps	
			4 = 9600 bps	
			5 = TC7200 bps	
			6 = TC9600 bps	



Function Parameter Table				
No.	Parameter	Selections		Function
18	RX START	UF-770	7 = 12000 bps	Selects receiving modem start speed, 33600~2400 bps. Press "v" or "Λ" to select displayed speed.
			8 = 14400 bps	
		UF-880	2400~33600 bps	
19	ITU-T V.34	UF-770	Not used	Selects whether the ITU-T V.34 is On, Off or select. (Select: Select whether the ITU-T V.34 is On or Off, when entering One-Touch/Abbreviated Dialing Numbers or Manual Number Dialing)
		UF-880	1 = Off	
			2 = On	
20	ITU-T ECM		3 = Select	Selects ECM mode.
			1 = Off (Invalid)	
21	EP TONE		2 = On (Valid)	Selects echo protect tone on V.29 mode, On (add) or Off (not add). (Used when Echo Suppression is disabled.)
			1 = Off (without EP Tone)	
22	SIG. INTERVAL		2 = On (with EP Tone)	Selects time interval between receiving signal and transmitting signal.
			1 = 100 ms	
			2 = 200 ms	
23	TCF CHECK		3 = 500 ms	Selects TCF check interval Long/Short.
			1 = Normal (Short)	
24	CED FREQ.		2 = Long	Selects CED frequency 2100/1080 Hz.
			1 = 1080 Hz (non CCITT)	
25	COMM. START-UP		2 = 2100 Hz	Selects communication start-up condition (XMT and Polling). (Used when Echo Suppression is disabled.)
			1 = 1'st response	
26	NON-STANDARD		2 = 2'nd response	Selects own mode (Panafax mode).
			1 = Off (Invalid)	
27	SHORT PROTOCOL		2 = On (Valid)	Selects short protocol mode.
			1 = Off (Invalid)	
28	ITU-T V33/17		1 = +V17 (V33 + V17)	Selects the type of modem to be identified to the remote station, when communicating with other manufacturer.
			2 = V33	
			3 = Off (V29 and V27 ter only)	
29	REMOTE DIAG.		1 = Off (not accepted)	Selects whether or not the machine accepts Remote Diagnostics from the service station. Same function as fax parameter No.31.
			2 = On (accepted)	
30	CED & 300bps		1 = 75 ms	Selects blank time between CED and 300 bps signal. (Used when Echo Suppression is disabled.)
			2 = 1 sec	
31	RTC = EOLx12		1 = Off (EOLx6)	Selects RTC signal, EOLx6 or EOLx12.
			2 = On (EOLx12)	
32	Not used			
33				
34				
35				
36	PROTOCOL DISPLAY		1 = Off (not displayed)	Selects whether to display the modem speed during communication. (Press the "+" or "#" key to display)
			2 = On (displayed)	
37	Not used			
38	FLASH TIME		5 = 50 msec.	Selects hooking period of the Flash key.
			~	
			100 = 1 sec.	
39	FLASH TIME (PSTN) (Except for North American version)		5 = 50 msec.	Flash time 50 msec. ~ 1 sec.
			~	
			100 = 1 sec.	
40	PAUSE TIME		1 = 1 sec.	Selects pause time 1 sec. ~ 10 sec. for dialing through a switchboard or international calls
			~	
			10 = 10 sec.	
41	Not used			
42	REDIAL INTERVAL		0 = no waiting	Selects redial interval, 0 to 15 minutes in 1 minute steps.
			~	
			15 = 15 minutes	
43	REDIAL COUNT		0 = no redial	Selects redial count 0 to 15 times in 1 step intervals
			~	
			15 = 15 times	
44	RING DET. COUNT		1 = 1 ring	Selects ring detect count 1 to 9 times in 1 step intervals.
			~	
			9 = 9 rings	
45	ON-HOOK TIME		0 = 0 sec.	Selects on-hook time between sequential communication calls in 1 second steps.
			~	
			90 = 90 sec.	

Function Parameter Table				
No.	Parameter	Selections		Function
47	RESPONSE WAIT	1 = 1 sec.		Selects waiting time for response after finishing the dialing.
		~		
		90 = 90 sec.		
48	Not used			
49	Not used			
50	RING DET. MODE	1 = Normal		Selects quality of ringer detection. Use if the line signal is out of regulation, set "Rough" so unit may detect the signals.
		2 = Rough		
51	TONE DET. MODE	1 = Normal		Selects quality of dial tone and busy tone detection. Use if the line signals are out of regulation, set "Rough" so unit may detect the signals.
		2 = Rough		
52	PULSE RATE	1 = 10 PPS		Selects dial pulse rate 10/20 pps.
		2 = 20 PPS		
53	Not used			
54	Not used			
55	BUSY TONE CHECK	1 = Off		Selects Busy Tone detection function.
		2 = On		
56	DIAL TONE CHECK (Except for North American version)	1 = Off		Selects whether to detect dial tone before dialing the telephone number.
		2 = On		
57	DC LOOP CHECK (Except for North American version)	1 = Off (not checked)		Selects whether the unit checks the DC Loop during communication.
		2 = On (checked)		
58	COMM. JNL+IMAGE	1 = Off (without image)		Selects whether the machine prints the COMM. Journal with image.
		2 = On (with image)		
59	CONF. RCV REPORT	1 = Off (not printed out)		Selects whether the machine prints the CONF.RCV REPORT.
		2 = On (printed out)		
60	VERSION:	Indicates ROM version.		
61	TX/RX/PRINT COUNTER:	TX/RX/PRINT		Indicates transmitted, received and total printed document count.
62	TX SYM RATE	UF-770	Not used	Selects transmission symbol rate (V.34), 3429/3200/3000/2800/2400 sr. Press "v" or "^" to select displayed rate.
		UF-880	2400~3429 sr	
63	RX SYM RATE	UF-770	Not used	Selects receiving symbol rate (V.34), 3429/3200/3000/2800/2400 sr. Press "v" or "^" to select displayed rate.
		UF-880	2400~3429 sr	
64 ~ 69	Not used			
70	LINE ERROR	1 = 128 lines		1. Selects line disconnect condition during reception. If the number of line errors exceed this setting, the unit will disconnect the line. 2. Selects transmit condition of RTP/PIP or RTN/PIN. (Available if No.73 ERROR DETECT is set to "LINES".) (See Note 1)
		2 = 256 lines		
		3 = 512 lines		
		4 = 1024 lines		
		5 = 2048 lines		
		6 = Off (will not disconnect line)		
71	TOTAL ERROR	1 = 5%		Selects transmit condition of RTP/PIP or RTN/PIN. (Available if No. 73 ERROR DETECT is set to "RATE".) (See Note 2)
		2 = 10%		
		3 = 15%		
		4 = 20%		
72	CONTI. ERROR	1 = 3 lines/STD		Selects continuous total error criteria of 3/6/12 lines of Off as Standard mode. If continuous total error exceeds this setting, the unit will transmit RTN/PIN. (Available if No.73 ERROR DETECT is set to "RATE")
		2 = 6 lines/STD		
		3 = 12 lines/STD		
		4 = Off (unlimited)		
73	ERROR DETECT	1 = Lines		Selects the error detect condition Lines/Rate.
		2 = Rate		
74	RTN RECEIVE	1 = Disconnect		Selects reaction when "RTN" is received.
		2 = Continue		
75	MH/MR/MMR	1 = MH (MH only)		Selects coding scheme.
		2 = MR (MH or MR)		
		3 = MMR (MH, MR or MMR)		
76	Not used			
77	Not used			
78	FUNCTION TX (with Center ROM only)	1 = Off		Selects whether the unit transfers the RAM data to the remote station without Function parameter No.5 1 and Journal Informations.
		2 = SYS (transfer RAM data)		

Function Parameter Table			
No.	Parameter	Selections	Function
79	FUNCTION RX (with Center ROM only)	1 = Off	Selects whether the unit retrieves the RAM data from the remote station.
		2 = SYS (retrieve RAM data without Journal Information)	
		3 = JNL (retrieve Journal Information)	
80	DOC TOP FEED	00 = 00 mm	Adjusts the distance between the scanning sensor ON position and the scanning start position.
		~	
		99 = 99 mm	
81	DOC END FEED	00 = 00 mm	Adjusts the distance between the scanning sensor OFF position and the scanning end position.
		~	
		99 = 99 mm	
82	JAM LENGTH	1 = 1 m	Selects the maximum length of a document that can be scanned.
		2 = 2 m	
		3 = Unlimited	
83	Not used		
84	LINE AS NO PAPER	1 = Ring (ring)	Selects whether to ring or send a busy tone to the remote station when recording paper runs out or the unit cannot receive because of any trouble.
		2 = Busy (keep line busy)	
85	Not Used		
86	REDUCTION FINE	1 = Off	Selects whether the resolution is preset to Fine or not, when sending with reduction B4→A4.
		2 = On	
87	DARKER LEVEL	0 = Darkest Original	Selects printing contrast level. 0↔1↔2↔3↔4↔5↔6 Dark← →Light
88	NORMAL LEVEL	~	
89	LIGHTER LEVEL	6 = Lightest Original	
90	Not used		
91	Not used		
92	SMOOTHING	1 = Off	Selects whether the smoothing function is available.
		2 = On	
93	POWER SAVE TIMER	1 to 255 minutes in 1 minute step.	Sets the idle period before the fusing heater is turned off after the last printing.
94 ~ 99	Not used		

**Note 1: No. 70 LINE ERROR — Transmit condition of RTP/PIP or RTN/PIN**

Setting Signal	1 : 128	2 : 256	3 : 512	4 : 1024	5 : 2048	6 : Off
MCF/PIP	0-31	0-63	0-127	0-255	0-511	Always
RTP/PIP	32-63	64-127	128-255	256-511	512-1023	-
RTN/PIN	64-127	128-255	256-511	512-1023	1024-2047	-

**Note 2: No. 71 TOTAL ERROR — Transmit condition of RTP/PIP or RTN/PIN**

Setting Signal	1 : 5%	2 : 10%	3 : 15%	4 : 20%
MCF/PIP	0-2	0-4	0-7	0-9
RTP/PIP	3-4	5-9	8-14	10-19
RTN/PIN	5-	10-	15-	20-

**Note 3:** The default setting of parameters depends on the country's specifications or regulations. Print the Function Parameter List to confirm the default settings.

## 5.4 Test Mode 3 (Function Parameter List Printout)

A list of all Function Parameters can be printed with the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1997 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR V ^
3	Press "MONITOR" four times, then press " * ".	TEST MODE NO.=_ (ENTER 0-12)
4	Press "3" and "START".	* PRINTING * FUNC. PARAMETER LIST
5	After printing completion, the unit returns to the display of step 3.	TEST MODE NO.=_ (ENTER 0-12)
6	Press "STOP" to return to standby.	12-JAN-1997 15:00 00%

## Function Parameter List (Sample)

\*\*\*\*\* -FUNCTION PARAMETER- \*\*\*\*\* DATE 12-JAN-1997 \*\*\*\*\* TIME 21:00 \*\*\* P.01

00 MON/TEL DIAL:[Monitor] Monitor	50 RING DET MODE:[Normal] Normal
01 ALARM STATUS:[Timer] Timer	51 TONE DET MODE:[Normal] Normal
02 STOP COMM.JRNL:[On] On	52 PULSE RATE:[10pps] 10pps
03 CONTINUOUS POLL:[Off] Off	53 -----
04 NUMERIC ID SET:[On] On	54 -----
05 -----	55 BUSY TONE CHECK:[On] On
06 ID DISPLAY:[Chara] Chara	56 -----
07 JNL COLUMN:[Station] Station	57 -----
08 MONITOR:[Off] Off	58 COMM.JRNL +IMAGE:[On] On
09 DC LOOP:[Off] Off	59 CONF.RCV REPORT:[On] On
10 TX LEVEL:[-9dBm] -9dBm	60 VERSION: UF-770 (NAM)V0.09
11 RX LEVEL:[-43dBm] -43dBm	61 TX/RX/PRT COUNTER:000050/000058/000074
12 DTMF LEVEL:[-6dBm] -6dBm	62 -----
13 G3 RX EQL:[On] On	63 -----
14 -----	64 -----
15 -----	65 -----
16 PRINT COUNTER:[Off] Off	66 -----
17 TX START:[14400bps ] 14400bps	67 -----
18 RX START:[14400bps ] 14400bps	68 -----
19 -----	69 -----
20 ITU-T ECM:[On] On	70 LINE ERROR:[128] 128
21 EP TONE:[Off] Off	71 TOTAL ERROR:[10%] 10%
22 SIG. INTERVAL:[500ms] 500ms	72 CONTI. ERROR:[Off] Off
23 TCF CHECK:[Normal] Normal	73 ERROR DETECT:[Rate] Rate
24 CED FREQ.: [2100Hz] 2100Hz	74 RTN RECEIVE:[Discon] Discon
25 COMM. START-UP:[1'st] 1'st	75 MH/MR/MMR:[MMR] MMR
26 NON-STANDARD:[On] On	76 -----
27 SHORT PROTOCOL:[On] On	77 -----
28 ITU-T V33/17:[V33+17] V33+17	78 -----
29 REMOTE DIAG.: [On] On	79 -----
30 CED & 300bps:[75ms] 75ms	80 DOC TOP FEED:[19] 19 mm
31 RTC=EQL x 12:[Off] Off	81 DOC END FEED:[11] 11 mm
32 -----	82 TX-JAM LENGTH:[2m] 2m
33 -----	83 -----
34 -----	84 LINE AS NOPAPER:[Ring] Ring
35 -----	85 -----
36 -----	86 REDUCTION FINE:[On] On
37 PROTOCOL DISPLAY:[Off] Off	87 DARKER LEVEL:[4] 4
38 -----	88 NORMAL LEVEL:[2] 2
39 FLASH TIME:[50] 500ms	89 LIGHTER LEVEL:[0] 0
40 -----	90 -----
41 PAUSE TIME:[3] 3 sec	91 -----
42 -----	92 SMOOTHING:[On] On
43 REDIAL INTERVAL:[3] 3 min	93 POW. SAVE TIMER:[1] 1 min
44 REDIAL COUNT:[5] 5	94 -----
45 RING DET. COUNT:[2] 2	95 -----
46 ON-HOOK TIME:[5] 5 sec	96 -----
47 RESPONSE WAIT:[60] 60 sec	97 -----
48 -----	98 -----
49 -----	99 -----

Note: The power must be reset for the new parameter settings to take effect.

-PANASONIC-

\*\*\*\*\* -PANAFAX UF-770- \*\*\*\*\* -0123456789012345678- \*\*\*\*\*

- Note:
1. [ ] - Factory Default
  2. The contents of the Function Parameter List may vary depending on the country's regulations.
  3. " \* " mark will be shown on the left side of number when setting was changed from default.

### 5.5.1 Test Mode 4 (Binary Signal Generation) (UF-770)

This test mode is used to check the binary signal output. Signals can be output to the line using the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1997 15:00 00%
2	Press <b>"FUNCTION"</b> and then <b>"7"</b> .	SET MODE (1-6) ENTER NO. OR √ ^
3	Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .	TEST MODE NO.=_ (ENTER 0-12)
4	Press <b>"4"</b> and <b>"START"</b> .	SIGNAL TEST IDLE (ENTER 1-9)
5	Enter the signal number (1-9) to select the binary signal.	SIGNAL TEST V21 300bps
6	Press <b>"STOP"</b> to end the signal generation. To select another signal, repeat step 4.	TEST MODE NO.=_ (ENTER 0-12)
7	Press <b>"STOP"</b> to return to standby.	12-JAN-1997 15:00 00%

Number	Signals
1	V21 300 bps
2	V33 14400 bps
3	V33 12000 bps
4	V17 TC9600 bps
5	V17 TC7200 bps
6	V29 9600 bps
7	V29 7200 bps
8	V27ter 4800 bps
9	V27ter 2400 bps

**Binary Signal Table**

### 5.5.2 Test Mode 4 (Binary Signal Generation) (UF-880)

This test mode is used to check the binary signal output. Signals can be output to the line using the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1997 15:00 00%
2	Press <b>"FUNCTION"</b> and then <b>"7"</b> .	SET MODE (1-6) ENTER NO. OR √ ^
3	Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .	TEST MODE NO.=_ (ENTER 0-12)
4	Press <b>"4"</b> and <b>"START"</b> .	SIGNAL TEST ENTER (01-70) #_
5	Enter the signal number (01-70) or <b>"√"</b> <b>"^"</b> to select the binary signal.	ENTER (01-70) #_ V21 300bps
6	Press <b>"STOP"</b> to end the signal generation. To select another signal, repeat step 4.	TEST MODE NO.=_ (ENTER 0-12)
7	Press <b>"STOP"</b> to return to standby.	12-JAN-1997 15:00 00%

Number	Signals	Number	Signals	Number	Signals	Number	Signals
01	V21 300 bps	21	V34 2800sr 9600bps	41	V34 3200sr 7200bps	61	V34 3429sr 26400bps
02	V33 14400 bps	22	V34 2800sr 12000bps	42	V34 3200sr 9600bps	62	V34 3429sr 28800bps
03	V33 12000 bps	23	V34 2800sr 14400bps	43	V34 3200sr 12000bps	63	V34 3429sr 31200bps
04	V17 TC9600 bps	24	V34 2800sr 16800bps	44	V34 3200sr 14400bps	64	V34 3429sr 33600bps
05	V17 TC7200 bps	25	V34 2800sr 19200bps	45	V34 3200sr 16800bps	65	AN Sam
06	V29 9600 bps	26	V34 2800sr 21600bps	46	V34 3200sr 19200bps	66	CM
07	V29 7200 bps	27	V34 2800sr 24000bps	47	V34 3200sr 21600bps	67	JM
08	V27ter 4800 bps	28	V34 2800sr 26400bps	48	V34 3200sr 24000bps	68	INFO OC & TONE B
09	V27ter 2400 bps	29	V34 3000sr 4800bps	49	V34 3200sr 26400bps	69	INFO OC & TONE A
10	V34 2400sr 2400bps	30	V34 3000sr 7200bps	50	V34 3200sr 28800bps	70	PPh & AC & ALT
11	V34 2400sr 4800bps	31	V34 3000sr 9600bps	51	V34 3200sr 31200bps		
12	V34 2400sr 7200bps	32	V34 3000sr 12000bps	52	V34 3429sr 4800bps		
13	V34 2400sr 9600bps	33	V34 3000sr 14400bps	53	V34 3429sr 7200bps		
14	V34 2400sr 12000bps	34	V34 3000sr 16800bps	54	V34 3429sr 9600bps		
15	V34 2400sr 14400bps	35	V34 3000sr 19200bps	55	V34 3429sr 12000bps		
16	V34 2400sr 16800bps	36	V34 3000sr 21600bps	56	V34 3429sr 14400bps		
17	V34 2400sr 19200bps	37	V34 3000sr 24000bps	57	V34 3429sr 16800bps		
18	V34 2400sr 21600bps	38	V34 3000sr 26400bps	58	V34 3429sr 19200bps		
19	V34 2800sr 4800bps	39	V34 3000sr 28800bps	59	V34 3429sr 21600bps		
20	V34 2800sr 7200bps	40	V34 3200sr 4800bps	60	V34 3429sr 24000bps		

Binary Signal Table



## 5.6 Test Mode 5 (Tonal Signal Generation)

This test mode is used to check the tonal signal output. Signals can be output to the line using the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1997 15:00 00%
2	Press <b>"FUNCTION"</b> and then <b>"7"</b> .	SET MODE (1-6) ENTER NO. OR ∨ ∧
3	Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .	TEST MODE NO.=_ (ENTER 0-12)
4	Press <b>"5"</b> and <b>"START"</b> .	TONAL TEST IDLE (ENTER 1-5)
5	Enter the signal number (1-5) to select the binary signal.	TONAL TEST 1080Hz
6	Press <b>"STOP"</b> to end the signal generation. To select another signal, repeat step 4.	TEST MODE NO.=_ (ENTER 0-12)
7	Press <b>"STOP"</b> to return to standby.	12-JAN-1997 15:00 00%

Number	Signals
1	1080 Hz
2	1100 Hz
3	1650 Hz
4	1850 Hz
5	2100 Hz

**Tonal Signal Table**

## 5.7 Test Mode 6 (RAM Initialization)

Initializes RAM and restores Function Parameter to their default values.

**Note:** This operation should be performed when the unit is first installed.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1997 15:00 00%
2	Press <b>"FUNCTION"</b> and then <b>"7"</b> .	SET MODE (1-6) ENTER NO. OR ∨ ∧
3	Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .	TEST MODE NO.= (ENTER 0-12)
4	Press <b>"6"</b> and <b>"START"</b> .	* INITIALIZE RAM * ENTER NO. or ∨ ∧
5	Press <b>"^"</b> or <b>"v"</b> to select the initialize mode. (See Note)	* INITIALIZE RAM * LOGO/ID/PSWD CLEAR
6	Press <b>"START"</b> .	* COMPLETED * LOGO/ID/PSWD CLEAR
7	Press <b>"STOP"</b> twice to return to standby.	12-JAN-1997 15:00 00%

**Note:** If ∨ or ∧ is pressed instead of selecting a number, the unit immediately starts the RAM initialization after the number is pressed.

No.	Initialize Mode	Description
99	SHIPMENT SET (A)	Delete all setting information, except parameter no. 80 and 81, then set default values.
98	SHIPMENT SET (B)	Delete all setting information, except parameter no. 61, 80 and 81, then set default values.
1#	MANUFACTURE SET	Factory use only. <b>DO NOT USE IN THE FIELD.</b>
19	ALL JOB CLEAR	All jobs stored in DRAM will be cleared.
14	PROGRAM DIAL CLEAR	Program keys will be cleared.
13	ABBR. DIAL CLEAR	One-touch/ABBR. No. will be cleared.
12	JOURNAL CLEAR	Journal contents will be cleared.
*	PARAMETER INITIAL	Fax Parameter and Function Parameter will be restored to default values.
10	LOGO/ID/PSWD CLEAR	Logo/ID/Poling Password will be cleared.

**RAM Initialization Table**

## 5.8 Test Mode 7 (DTMF Signal Generation)

This test mode is used to check the DTMF (Dual Tone Multi Frequency) signal output. The DTMF signal can be generated using the following procedure.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1997 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR ∨ ∧
3	Press "MONITOR" four times, then press " * ".	TEST MODE NO.=_ (ENTER 0-12)
4	Press "7" and "START".	DTMF TEST: (1:SINGLE 2:DUAL)
5a	Press "1" for DTMF Single Tone Generation.	DTMF TEST: ENTER (0-7)
6a	Enter the signal number (0-7) to select the DTMF single tone.	DTMF TEST: 697Hz ENTER (0-7)
5b	Press "2" for DTMF Dual Tone Generation.	DTMF TEST: ENTER (0-#)
6b	Enter the signal number (0-#) to select the DTMF dual tone.	DTMF TEST: (0) ENTER (0-#)
7	Press "STOP" to end the signal generation. To select another signal, repeat step 4.	TEST MODE NO.=_ (ENTER 0-12)
8	Press "STOP" to return to standby.	12-JAN-1997 15:00 00%

Number	DTMF Single Tones
0	697 Hz
1	770 Hz
2	852 Hz
3	941 Hz
4	1209 Hz
5	1336 Hz
6	1477 Hz
7	1633 Hz

DTMF Single Tone Table

Number	DTMF Dual Tones
0	941 Hz & 1336 Hz
1	697 Hz & 1209 Hz
2	697 Hz & 1336 Hz
3	697 Hz & 1477 Hz
4	770 Hz & 1209 Hz
5	770 Hz & 1336 Hz
6	770 Hz & 1477 Hz
7	852 Hz & 1209 Hz
8	852 Hz & 1336 Hz
9	852 Hz & 1477 Hz
*	941 Hz & 1209 Hz
#	941 Hz & 1477 Hz

DTMF Dual Tone Table

## 5.9 Test Mode 9 (RAM Test)


This test mode is used to check RAM by writing and reading the document memory.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1997 15:00 00%
2	Press <b>"FUNCTION"</b> and then <b>"7"</b> .	SET MODE (1-6) ENTER NO. OR V ^
3	Press <b>"MONITOR"</b> four times, then press <b>"*"</b> .	TEST MODE NO.=_ (ENTER 0-12)
4	Press <b>"9"</b> and <b>"START"</b> .	* D-RAM CHECK NOW *
5a	<b>"COMPLETED"</b> displays when the writing and reading of RAM data is finished.	* COMPLETED *
5b	If any data error exists, the display shows the segment and data.	SYSTEM D-RAM FAULT 1C00:1000 RFF-WFE
6	Press <b>"STOP"</b> to return to standby.	12-JAN-1997 15:00 00%

**Note:** This test should be performed after deleting all files.

### 5.10 Test Mode 10 (LED/LCD/CCD Test)

**This test mode is used to check the LEDs, LCD and CCD. Use the following procedure.**

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1997 15:00 00%
2	Press " <b>FUNCTION</b> " and then " <b>7</b> ".	SET MODE (1-6) ENTER NO. OR v ^
3	Press " <b>MONITOR</b> " four times, then press " * ".	TEST MODE NO.=_ (ENTER 0-12)
4	Press " <b>10</b> " and " <b>START</b> ". 1) LCDs display as shown at right. 2) All LEDs will light. 3) The scanner will be active. (Used for CCD test.)	<LED&LCD-LIGHT-TEST> LIGHTING-TEST-NOW-!! 
5	Press " <b>STOP</b> " twice to return to standby.	12-JAN-1997 15:00 00%

## 5.11 Test Mode 12 (LBP Service Mode)

Use the following procedure to change printer parameter.

Step	Operation or Unit Condition	LCD Display
1	Standby	12-JAN-1997 15:00 00%
2	Press "FUNCTION" and then "7".	SET MODE (1-6) ENTER NO. OR √ ^
3	Press "MONITOR" four times, then press " ".	TEST MODE NO.= (ENTER 0-12)
4	Press "12" and "START".	LBP SERVICE MODE: ■ 1: PARA 2: INFO 3: C&C
5	Enter "1" for setting printer parameter. Enter "2" for getting printer information. Enter "3" for printing Printer Report. EX: Enter "1" for setting printer parameter.	LBP PARAMETER SET ENTER NO. (1-7) # ■
6	Enter "7". Then enter the number of pages. EX: Enter "50" and "START".	OUT OF TONER : 50 ENTER 001-254 (page)
7	Repeat step 5 through 6 to require operation, or press "STOP" to return to standby.	12-JAN-1997 15:00 00%

This test mode is used to change printer parameters and refers the printer information.

Sub-Code	Parameter Name	Description
1	1	Not used
	2	Not used
	3	Not used
	4	Not used
	5	Printer Counter
	6	LBP Fuser Reset
	7	Out of Toner
2	1	LBP ID No.
	2	LBP ROM Version
	3	LBP Print Available
3	1	Service Alert Tel #
	2	Maint. Alert Tel #
	3	Customer ID
	4	Printer Report

5.11.1 Printer Report

\*\*\*\*\*-PRINTER REPORT-\*\*\*\*\* DATE 12-JAN-1997 \*\*\*\*\* TIME 11:49\*\*\*\*\*

LAST PRINT ERROR : JAN-12 10:59 NO. 001-63

CUSTOMER ID :

FAX ROM VERSION : UF-XXX (NAM)V0.09

LBP ROM VERSION : 00.38

TX COUNTER : 000000

RX COUNTER : 000000

PRT COUNTER : 000199

Information Code (Refer to Sect. 4.7)

PRINT ERROR : 12-JAN 10:59 NO.001-63

12-JAN 10:35 NO.001-63

Printer Error Code

\*\*\*\*\* - \*\*\*\*\* - \*\*\*\*\*

## 5.11.2 Printer Error Code Table

Error Code	Description of Problems	Cause
00	No problem detected	
10	The Timing Sensor turned OFF before a certain period of time.	1. Recording Paper Jam. 2. Timing Sensor defective. 3. Incorrect page size setting.
11	Timing Sensor did not turn ON within a certain period of time. (Original Cassette Feeder)	1. Recording Paper misfeeding, Paper Feed Roller defective. 2. Drive Clutch defective. 3. Timing Sensor defective.
12	Timing Sensor did not turn ON within a certain period of time. (250 sheet Optional Cassette Feeder)	1. Recording Paper misfeeding, Paper Feed Roller defective. 2. Drive Clutch defective. 3. Timing Sensor defective.
13	Timing Sensor did not turn ON within a certain period of time. (500 sheet Optional Cassette Feeder)	1. Recording Paper misfeeding, Paper Feed Roller defective. 2. Drive Clutch defective. 3. Timing Sensor defective.
14	Timing Sensor did not turn OFF within a certain period of time.	1. Recording Paper Jam. 2. Timing Sensor defective. 3. Incorrect page size setting.
15	Paper Eject Sensor did not turn ON within a certain period of time.	1. Recording Paper Jam. 2. Paper Eject Sensor defective.
16	Paper Eject Sensor did not turn OFF within a certain period of time.	1. Recording Paper Jam. 2. Paper Eject Sensor defective.
17	Timing Sensor detected paper while initializing the unit.	1. Recording paper jammed in the unit. 2. Timing Sensor defective.
18	Paper Eject Sensor detected paper while initializing the unit.	1. Recording paper jammed in the unit. 2. Paper Eject Sensor defective.
1B	Paper Cassette was slid out while Recording Paper Feeding.	1. Recording Paper Jam.
22	The temperature of the Fuser Roller remained low even after the circuit was activated.	1. Fuser Unit defective. 2. FCB PCB defective. 3. LVPS defective.
23	Abnormally high Fuser Roller temperature after the circuit was de-activated.	1. Fuser Unit defective. 2. FCB PCB defective. 3. LVPS defective.
24	The temperature of the Fuser Roller was not controlled within a certain margin.	1. Fuser Unit defective. 2. FCB PCB defective. 3. LVPS defective.
25	Thermistor open.	1. Thermistor defective (Fuser Unit). 2. FCB PCB defective.
26	Thermostat detected temperature over 200°C.	1. Thermostat defective (Fuser Unit). 2. FCB PCB defective. 3. LVPS defective.
31	The Polygon Motor did not reach a constant speed of 5,000 rpm within a certain period of time.	1. LSU defective.
32	The Polygon Motor did not maintain a constant speed of 5,000 rpm.	1. LSU defective.
36	HSYNC signal abnormal.	1. LSU defective. 2. FCB PCB defective.
41	Fan does not rotate.	1. Fan defective. 2. FCB PCB defective.
54	A/D Converter error.	1. FCB PCB defective.
61	Unit detected "No Toner Cartridge".	1. Toner Cartridge not installed. 2. Toner Sensor defective.
63	Unit detected "Printer Door Open".	1. Printer door is not closed. 2. ILS PCB defective.
64	Unit detected "No Cassette".	1. Cassette not installed or partially open. 2. Cassette Sensor defective.
65	Unit detected "Out of Paper".	1. Cassette(s) ran out of receiving paper. 2. Paper Detect Sensor defective.
68	Jam Access Cover Sensor of 250 sheet Cassette opened.	1. Jam Access Cover Sensor of 250 sheet Cassette defective.
69	Jam Access Cover Sensor of 500 sheet Cassette opened.	1. Jam Access Cover Sensor of 250 sheet Cassette defective.
71	Interface error occurs with the 500 sheet optional cassette.	1. CN101 or 126 disconnect. 2. CST3 PCB defective.

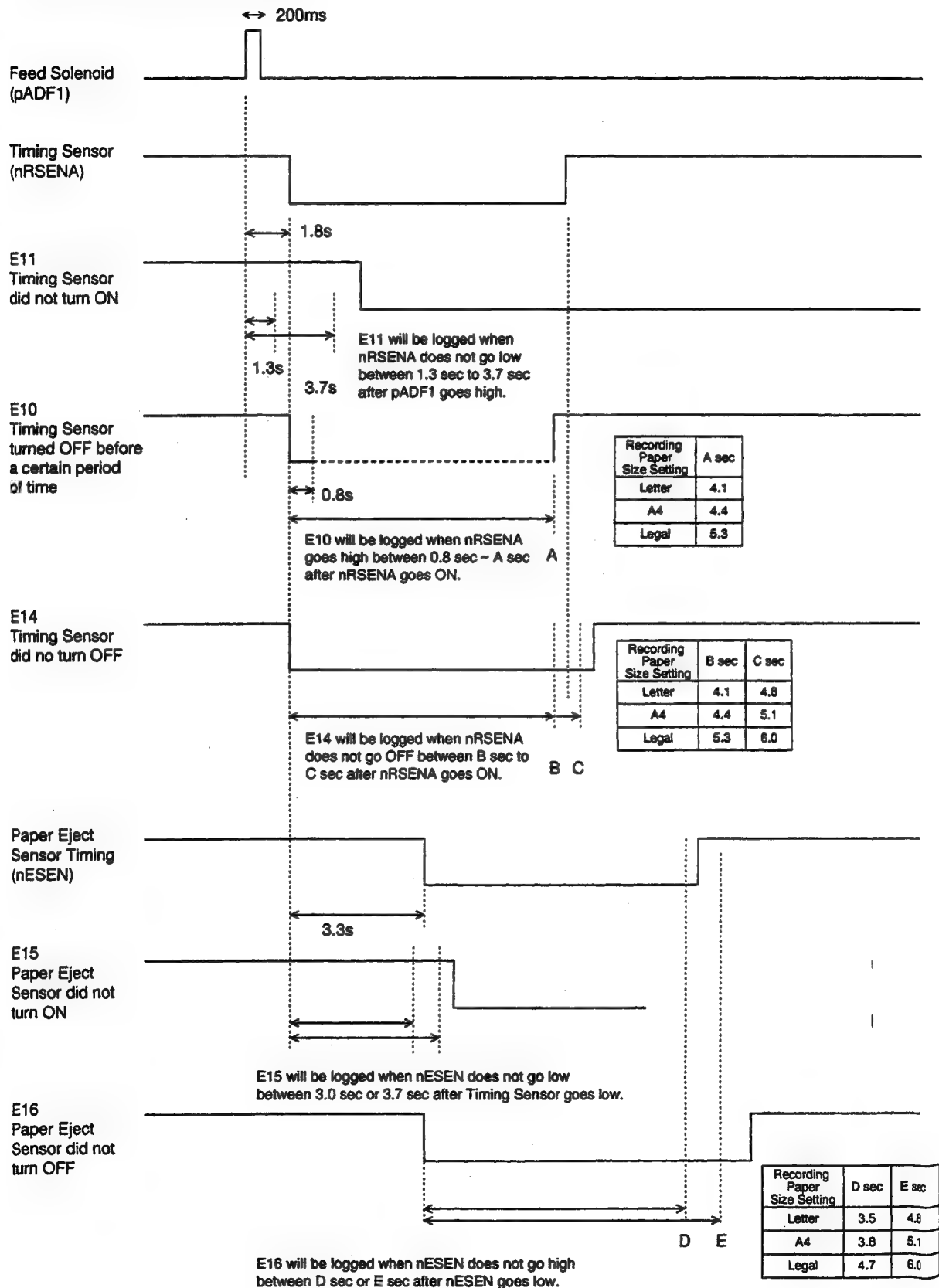
**Note :** If an 021 series Error Code occurs, 021-25 (Thermistor Open) or 021-26 (Thermistor detected temperature over 200°C), a pre-programmed recovery safety software is activated to protect the unit and the service personnel during abnormal increase in temperature. Once activated, this program is downloaded into the FCB PC Board's SRAM, disabling the Fuser Lamp and preventing it from turning ON again. In order to reset this circuit, please follow the procedure below.

- 1) Reset the LBP Fuser by using Test Mode 12-1-6 (Section 5.11) and Power OFF/ON.
- 2) Replace the Thermistor or Fuser Unit. If the problem persists,
- 3) Replace the FCB PCB.

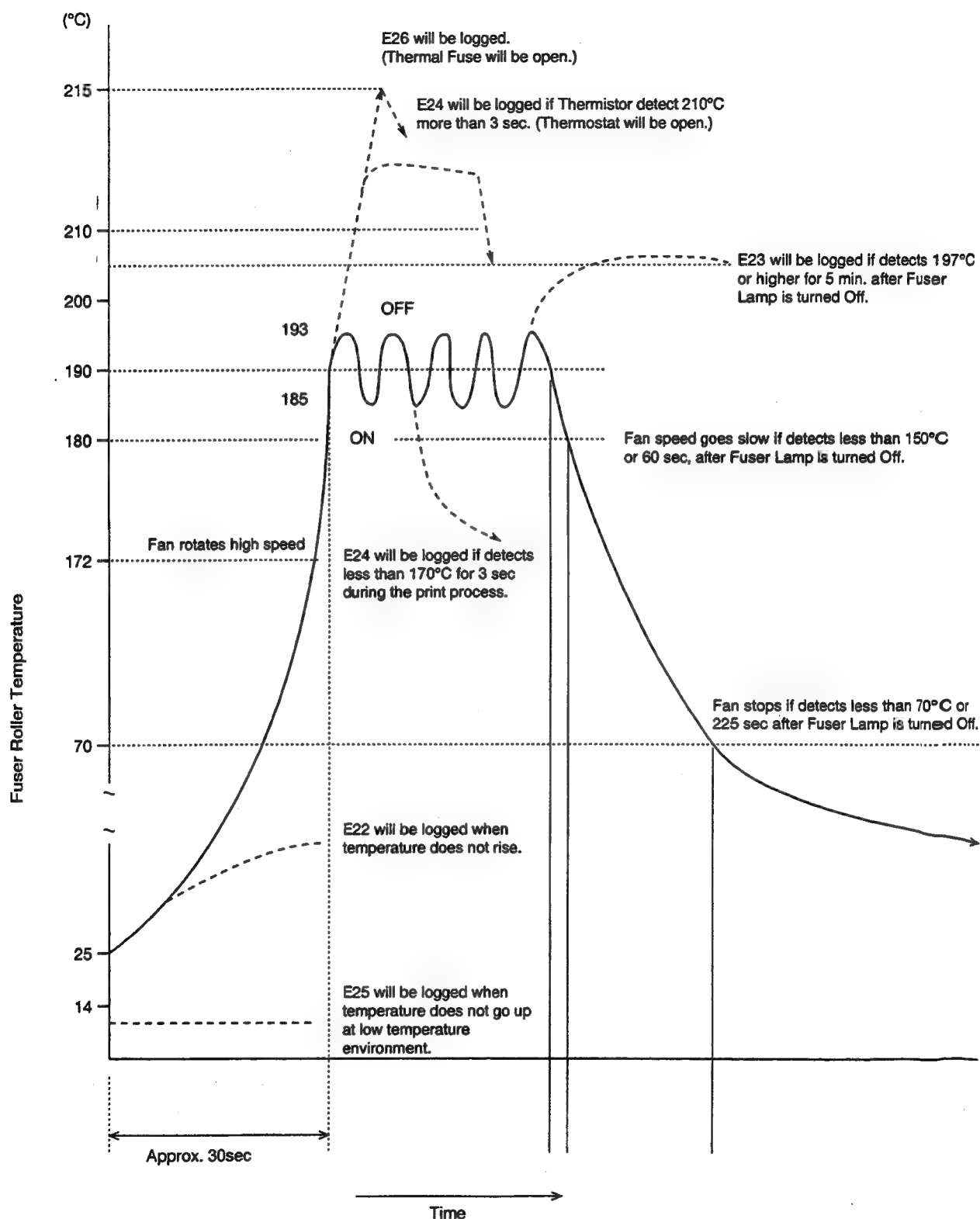


### 5.11.3 Printer Error Detail Explanation

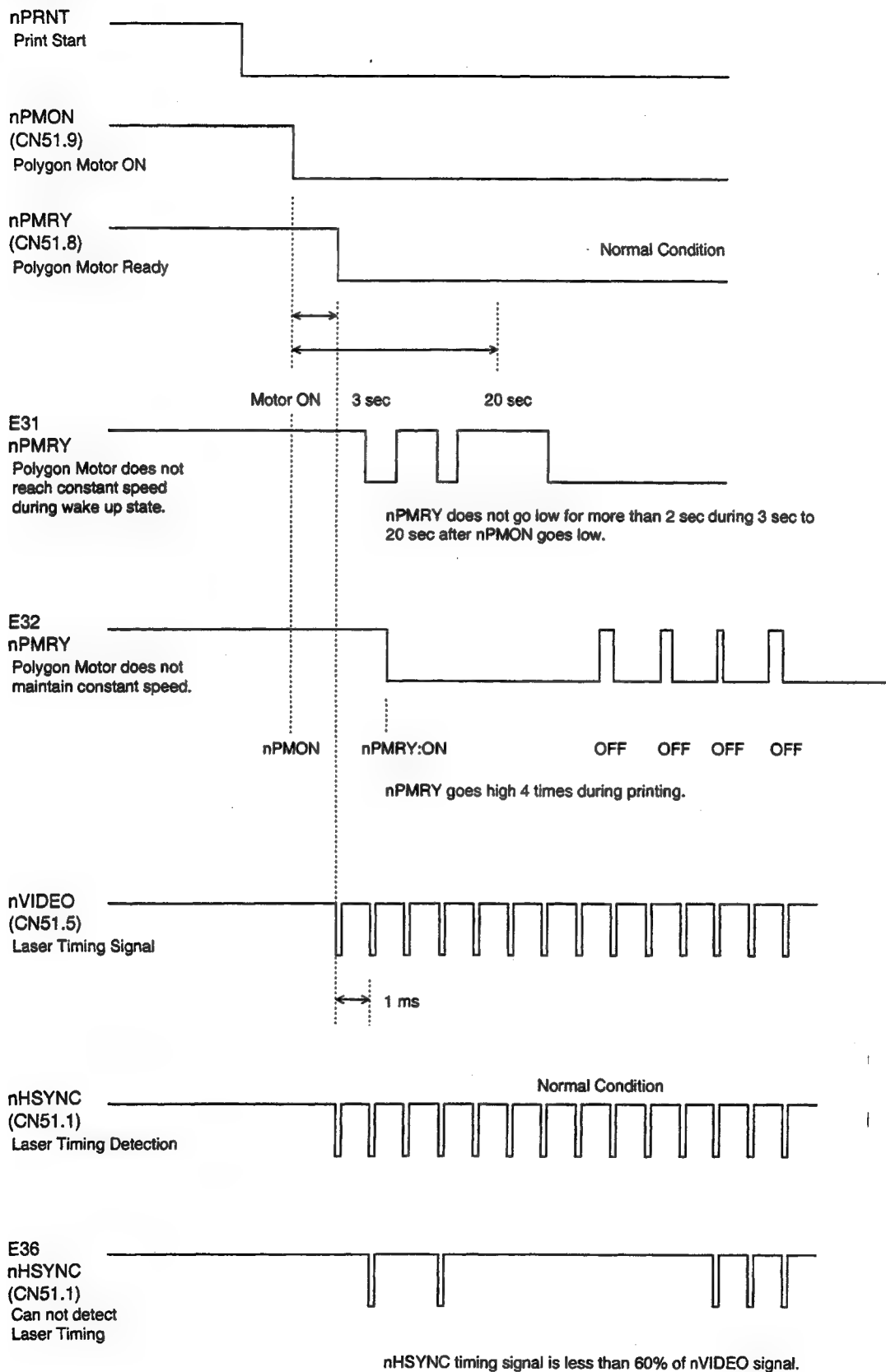
#### Recording Paper Jam Detection



# Fuser Error Detection

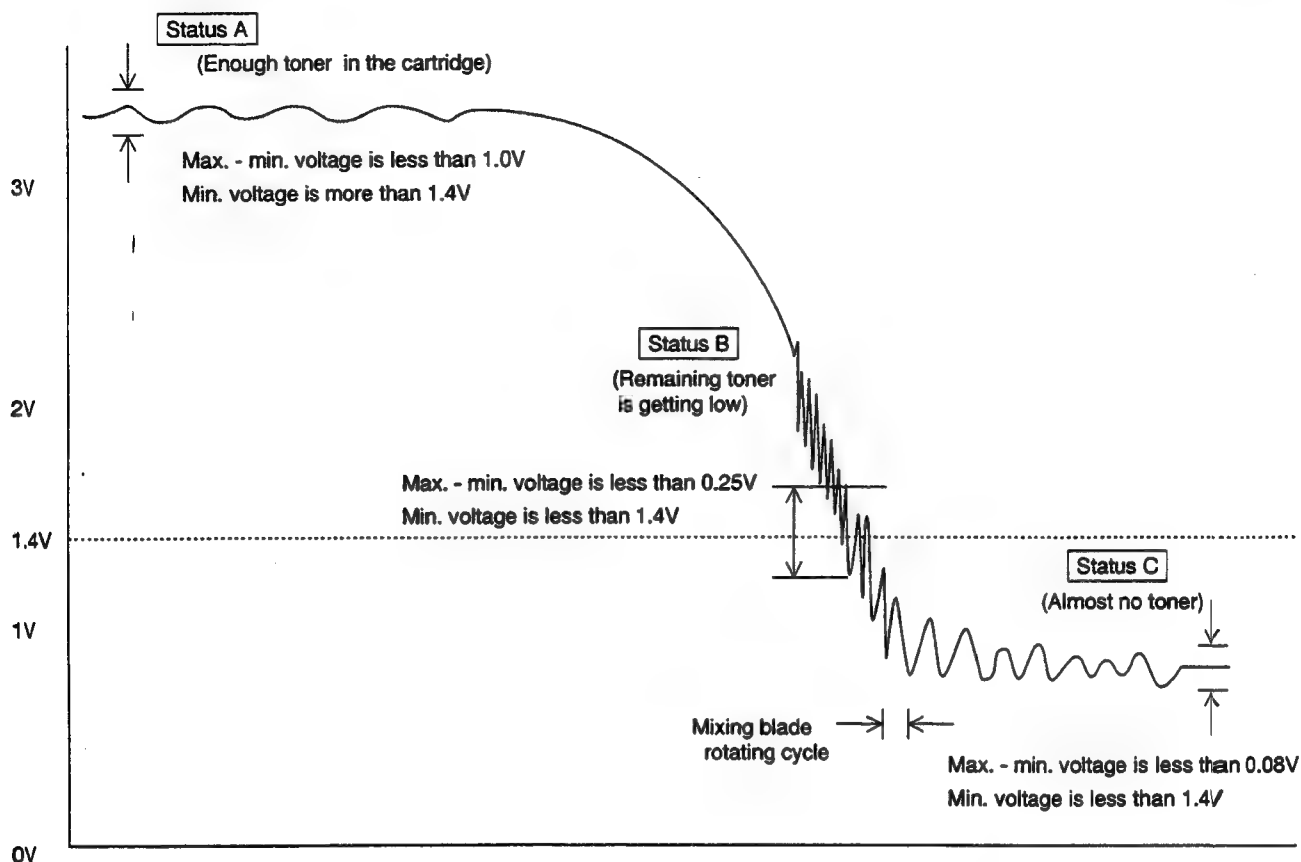


# LSU Error Detection



## Out of Toner Detection

## Toner Sensor Output Signal



Toner Sensor output may change when the mixing blade passes above the Toner Sensor. Therefore the output signal has a max. voltage and min. voltage during mixing blade rotation cycle (6 sec).

## E043

If UF-XXX detects Status B 10 times during printing, the machine recognizes that the remaining toner is low and the display shows "REPLACE TONER CARTRIDGE".

## E041

After detecting E043 and the LBP Print Available Counter Value is reached "0", the unit logs E041 (OUT OF TONER).

## E45

When the unit detects Status C when power is On, the unit logs E045 and displays "NO CARTRIDGE". The unit will recover when detecting Status A after replacing with a new toner cartridge.

**Note**

## **Chapter 6**

# **System Description**

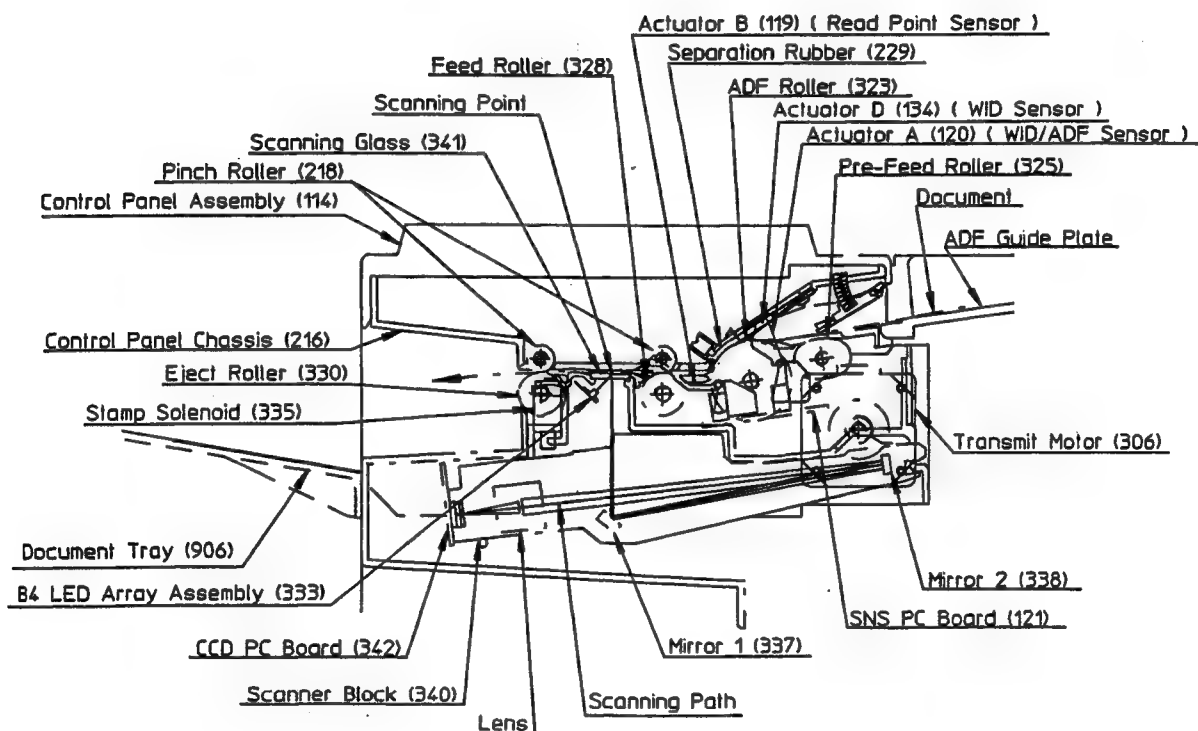
## 6.1 Mechanical Operation

The mechanical units are installed in a single unit body. The mechanical block consists of the following mechanisms.

Transmit Mechanism  
Receive Mechanism  
Covers and Enclosures  
Control Panel

### 6.1.1 Transmit Mechanism

The Transmit Mechanism consists of components which feed, scan and eject documents, as well as send signals. These components and their functions are as follows:



### **ADF Mechanism**

The ADF (Automatic Document Feeder) automatically feeds paper into the unit, and consists of the Pre-feed Roller, ADF Roller and Separation Rubber. Each document is placed face-down on the ADF Guide Plate before being fed into the unit.

- The **Pre-feed Roller (325)** moves the bottom document to the ADF Roller.
- The **ADF Roller (323)** feeds individual pages into the scanning area.
- The **Separation Rubber (229)** separates documents placed on the ADF Guide Plate, preventing multiple feeding. |

### **B4 LED Array (333)**

The UF-770/880 has one LED Array, used as a light source to illuminate the document. The LED Array turns ON when the Read Point Sensor is activated by the document leading edge.

### **Transmit Guide Unit**

The Transmit Guide Unit is an auxiliary part used for feeding and ejecting documents. It consists of the Transmit Guide (117), Control Panel Chasis (216), Feed Roller (328), Eject Roller (330), and Pinch Roller (218). This unit also provides the white scanning area and serves as a base for electronic white reference.

### **Transmit Mechanism Drive System**

This system feeds documents through the transmitting mechanism, and consists of rollers, gears, and a stepper motor.

- The **Transmit Motor (306)**, a stepper motor, controlled by the CPU, drives the Pre-Feed Roller, ADF Roller, Feed Roller and Eject Roller, with the speed based on the density of the picture information.
- The **Feed Roller (328)** feeds the document to the scanning point.
- The **Eject Roller (330)** feeds and ejects the document out of the machine.

### **Transmit Mechanism Sensors [SNS PCB (121)]**

The **ADF Sensor/WID Sensor (134)** performs two functions. The ADF Sensor (PC3), activated by Actuator A (120), detects the presence of documents on the ADF Tray and multiple pages. The WID (A4/B4 size document width) Sensor (PC1), activated by Actuator D (134), detects documents that are wider than 9.1 inches (232 mm). The size of the reproduced copy is reduced when the receiver is capable of printing only letter and A4 size. The size remains the same when the receiver is capable of printing B4 size copies. Width reduction is also in effect in the copy mode.

The **RP (Read Point) Sensor (PC2)**, activated by Actuator B (119), detects the lead and trail edges of the document, controlling the reading position. The CPU determines that a document is jammed if Actuator B is not tripped within a specified time after the ADF Roller starts feeding, and disengages the Pre-feed and ADF Rollers by reversing the Transmit Motor direction.

The **ADF Door Sensor (PC1)**, activated by Actuator C (118), halts all scanning operations when the Control Panel Unit is open.

### **Verification Stamp Unit**

The Verification Stamp Unit stamps a ⊗ mark on the front of the document after the document is successfully transmitted or stored. It consists of the Stamp Head (334) and Stamp Solenoid (335).



### Scanner Block (340)

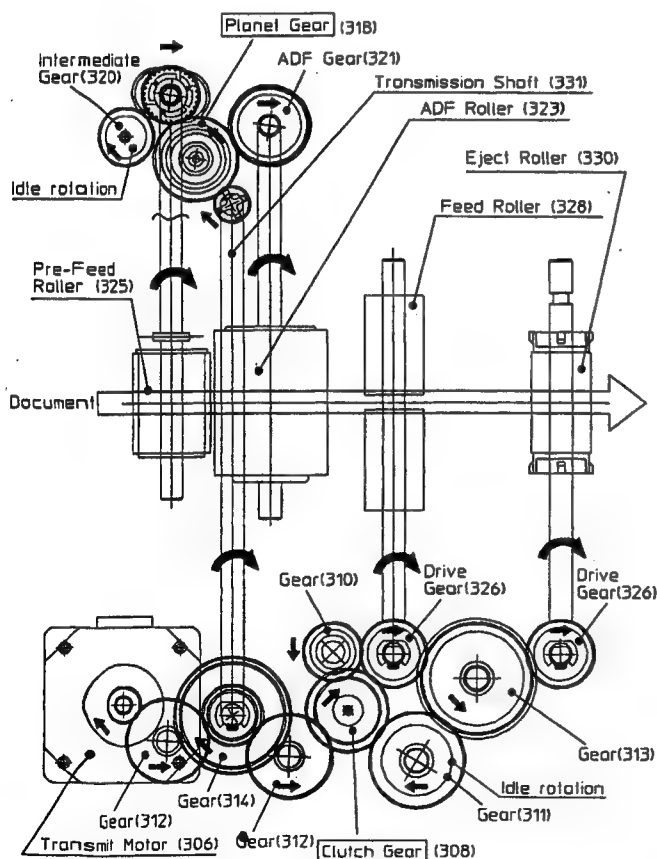
The Scanner Block consists of two mirrors, a lens, and a CCD PC Board.

- The mirrors, **Mirror 1** (337) and **Mirror 2** (338), reflect image information, in the form of light, through the Lens.
- The **Lens** focuses the image information and passes it to the CCD.
- The **CCD**, mounted on the CCD PC Board, converts the image information into an electronic signal.

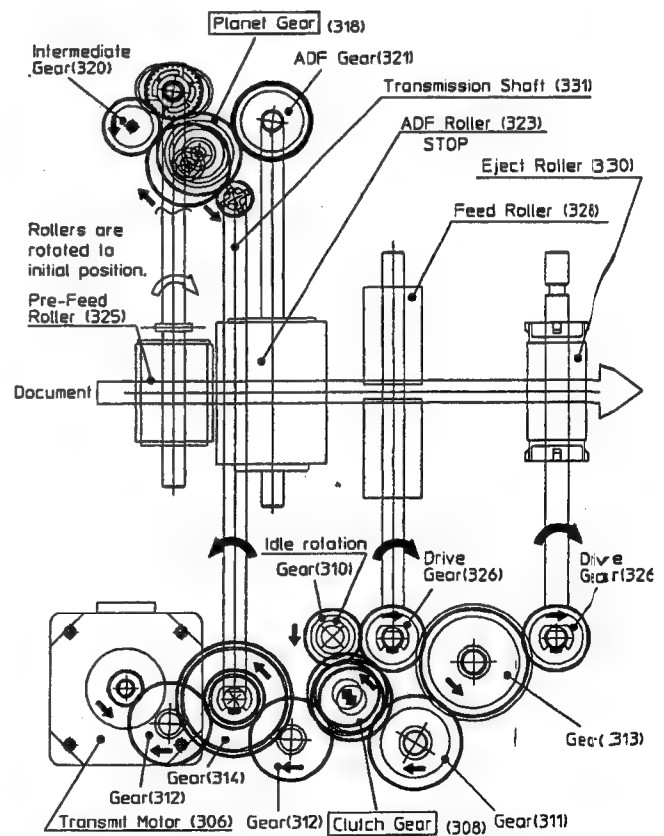
### Drive System

The Drive System uses a Planetary Gear System to provide drive to the Pre-feed Roller and ADF Roller. A planetary gear system does not have a fixed position; it shifts its position according to the rotational torque of the gear, together with the rotation of the planet gear. When the Read Point Sensor is activated, and the document is scanned, the Pre-feed Roller and the ADF Roller drive are disengaged. The Drive System is shown below.

Operation Specification : 1).Document Feed Operation  
2).Document Eject Operation

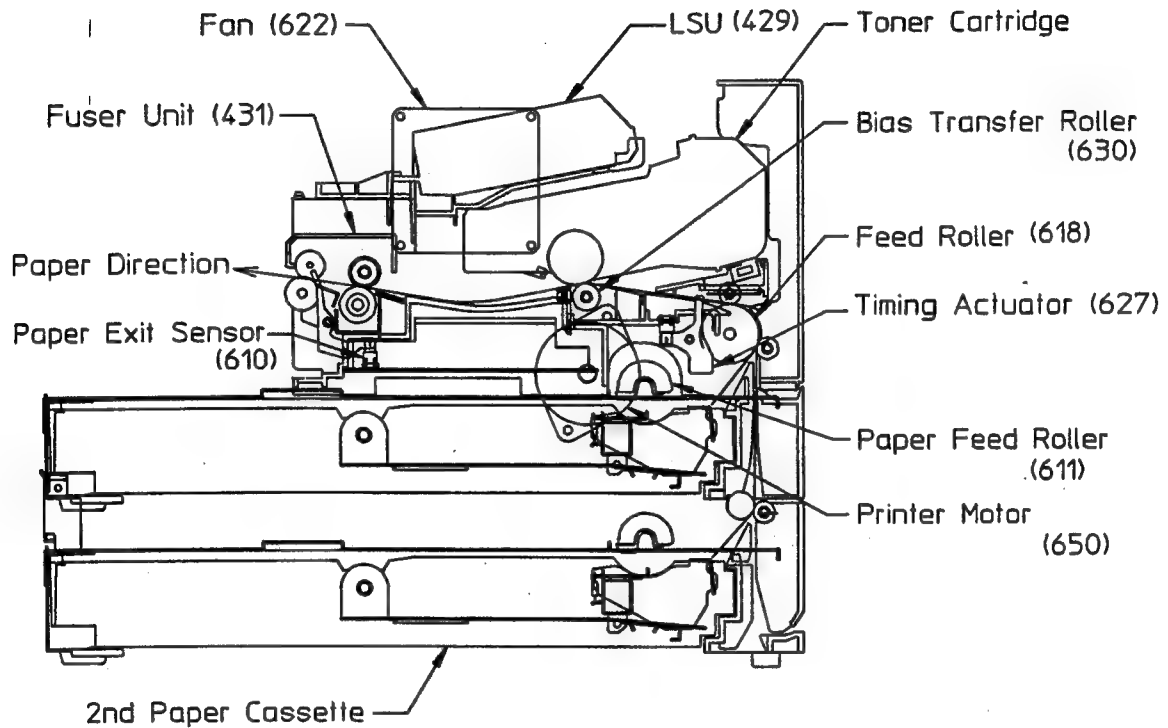


Operation Specification : 1).Power ON Initial Operation  
2).Scanning Operation



### 6.1.2 Receive Mechanism

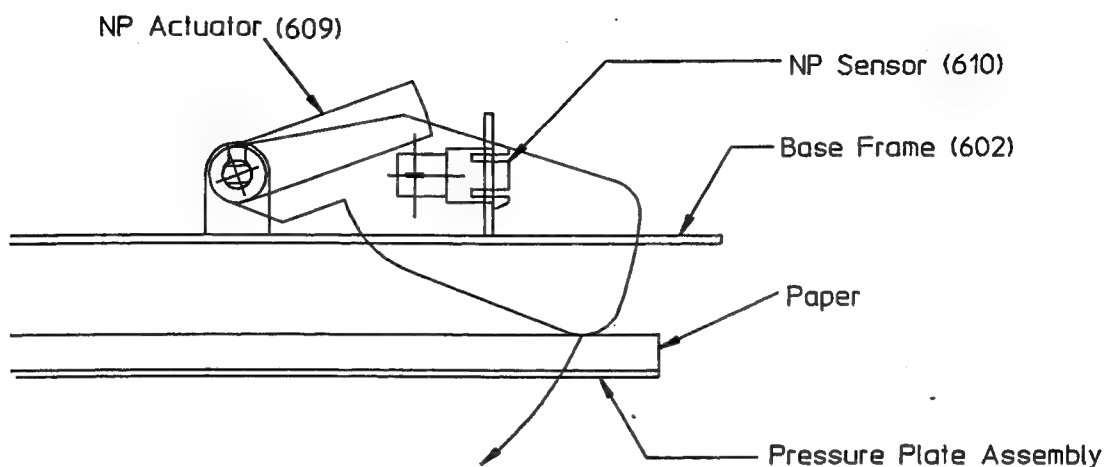
The Receive Mechanism consists of the Laser Unit (LSU), OPC (Organic Photo Conductor) Drum, and various other parts which ensure the normal feeding of recording paper. These components and their functions are as follows:



**Paper Feed Units No. 1 and 2**

Paper Feeder Unit No. 2 is optional.

**Cassette Paper Detector operation**



The NP Actuators attached to the Paper Feed Blocks No. 1 and 2 determine if there is paper in the cassette. The paper in the cassette lifts up the NP Actuator, allowing the light from the LED to actuate the phototransistor. The output signal level (nPCHK1 or nPCHK2) is shown in the table below.

	Paper in cassette	No paper
Paper Feed Block No. 1	L	H
Paper Feed Block No. 2	L	H

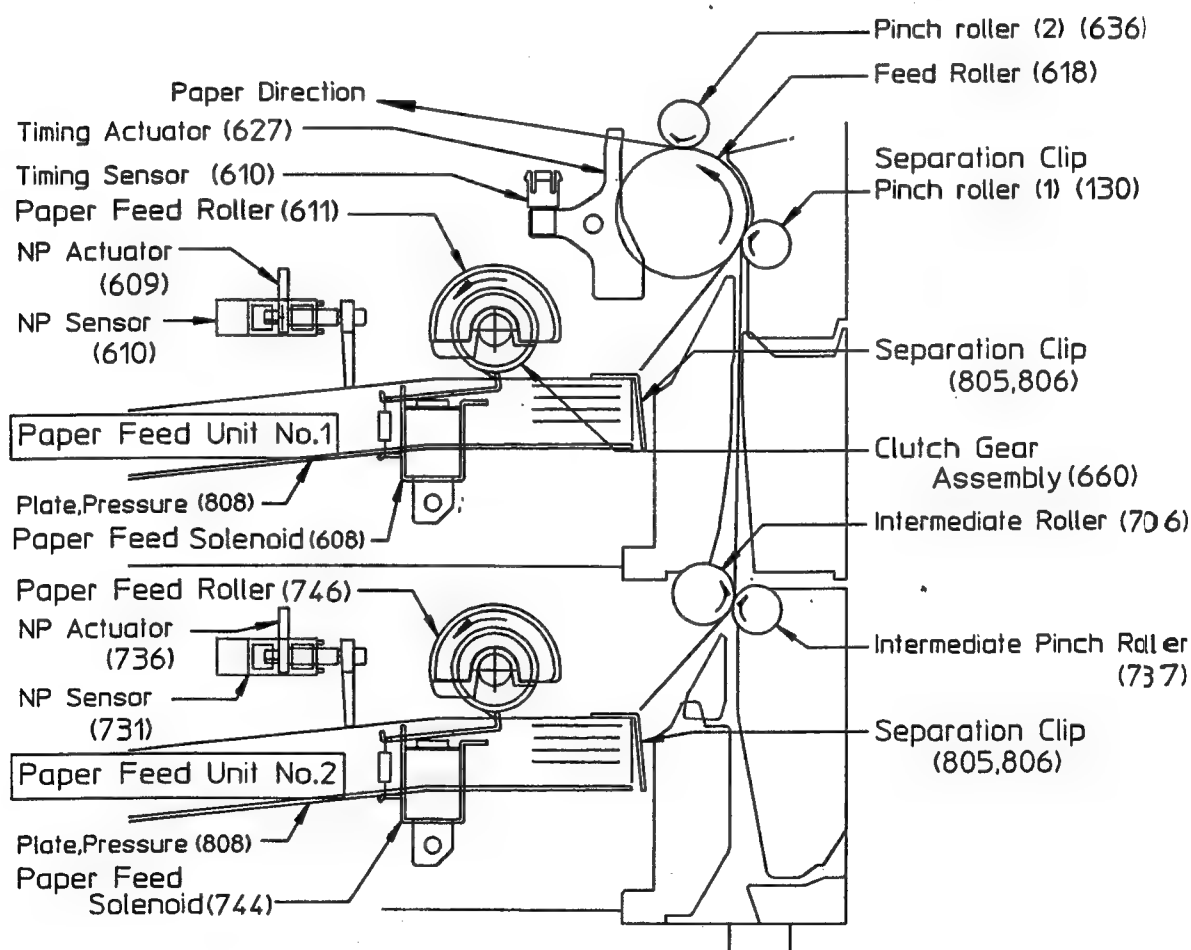
**Paper Feed Unit No. 1 Operation**

- (1) The printing operation begins when the nPRT (Print Request) output signal level goes Low. The Printer Motor (650) is initialized.
- (2) The Paper Feed Solenoid (608) is energized for a specified period of time and turned ON. This activates the Paper Feed Roller (611), which rotates one revolution. The paper is separated into individual sheets by the Paper Separation Arm and transported to the Feed Roller (618).
- (3) After one revolution the Paper Feed Roller stops, releasing the paper. The Feed Roller transports the paper to the drum area.
- (4) The actual printing process starts at a specified time after the Timing Actuator (627) is activated and stops at a specified period of time after the trailing edge clears the Timing Actuator.

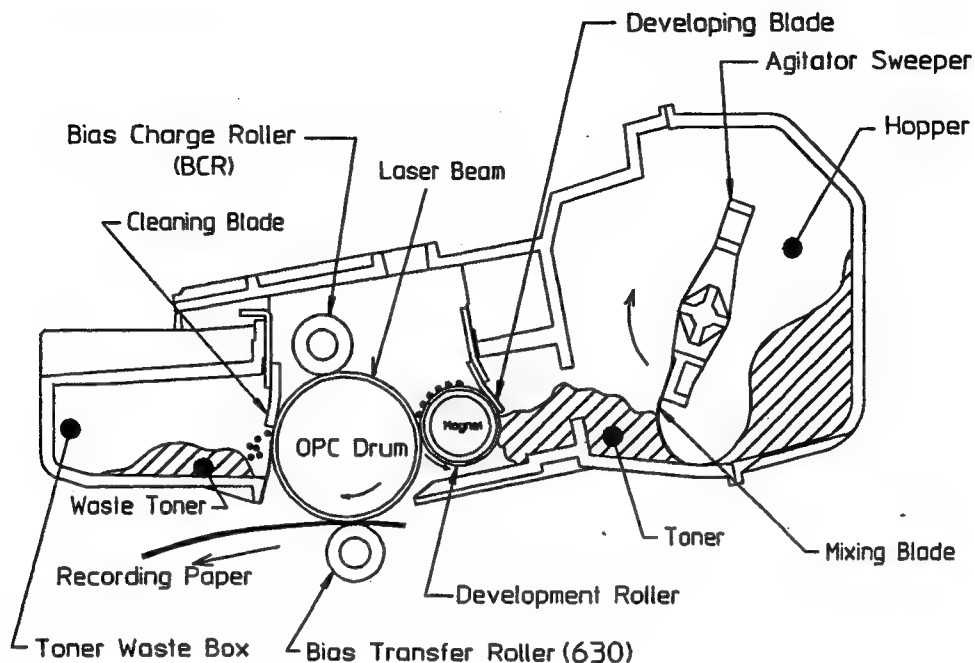
### Paper Feed Unit No. 2 (Optional) Operation

The First Paper Feed Unit always takes priority. The Second Paper Feed Unit becomes operational only when the first cassette runs out of paper and the NP Sensor is deactivated, causing the nPCHK1 output signal level to go High.

- (1) The printing operation begins when the nPRT (Print Request) output signal level goes Low. The Printer Motor (650) is initialized.
- (2) The Paper Feed Solenoid (744) is energized for a specified period of time and turned ON. This activates the Paper Feed Roller (746), which rotates one revolution. The paper is separated into individual sheets by the Paper Separation Arm and transported to the Intermediate Roller (706).
- (3) After one revolution the Paper Feed Roller stops, releasing the paper. The Intermediate Roller and the Feed Roller (618) transports the paper to the drum area.
- (4) The actual printing process starts at a specified time after the Timing Actuator (627) is activated and stops at a specified period of time after the trailing edge clears the Timing Actuator.



### 6.1.3 Printing Process Operation



#### Charge

In the dark, the Bias Charge Roller (BCR) applies a high, uniform negative charge to the surface of the OPC Drum. The surface potential is approximately -610 VDC and remains because the drum has a high electrical resistance in the dark.

#### Exposure

A portion of the laser beam is deflected to the timing sensor [Beam Detection (BD) Sensor], which controls the start timing of scanning on the OPC Drum. The CPU also uses the timing sensor to detect abnormal signals. The light beam from the laser diode is modulated by the digital signal (nVIDEO) and converted to parallel light waves by the collimator lens. The beam is then directed to the rotating polygon mirror, where it is reflected to the f- $\theta$  lens and then focused onto the OPC Drum surface. The laser beam moves across the surface of the OPC Drum in the scanning direction. Where the laser beam is applied, the negative charge on the drum dissipates, and where the laser is not applied, the negative charge remains. This action forms a latent, electrostatic image on the OPC Drum, corresponding to the original image.

#### Development

This development process uses a conventional method, where toner coats a Development Roller and transfers to the latent image on the OPC Drum.

In the Toner Cartridge, the (mono-component) toner is negatively charged by the friction between the rotating Development Roller (Mag Roller) and the Developing Blade. This combination and the rotation of the Mixing Blade transfers the toner from the reservoir and forms a brush effect on the Mag Roller. Where the magnetic brush lightly touches the OPC Drum, the negatively charged toner is attracted to the latent image on the drum, forming a mirror image of the original on the drum. Any remaining toner is removed from the Mag Roller by the Developing Blade and is recycled back into the toner reservoir. A bias voltage of approximately 1.5 kVACp-p at 1.7 kHz, riding on a -500 VDC bias is applied to the magnetic brush to achieve maximum print quality.

**Transfer and Separation**

As the paper is fed between the OPC Drum and the Bias Transfer Roller (BTR) (630), a positive charge of approximately +600 VAC (+3 $\mu$ A steady current) is applied to the backside of the paper by the BTR. The toner particles are attracted away from the drum towards the surface of the paper. During cleaning, the BTR is charged to approximately -800 VDC to repel toner on the OPC Drum and prevent toner from being attracted to the BTR. After transfer has occurred, the paper passes over the Discharge Plate (617) in the Transmit Guide (117), reducing the difference of potential between the OPC Drum and the paper. The stiffness of the paper causes the paper to separate from the drum.

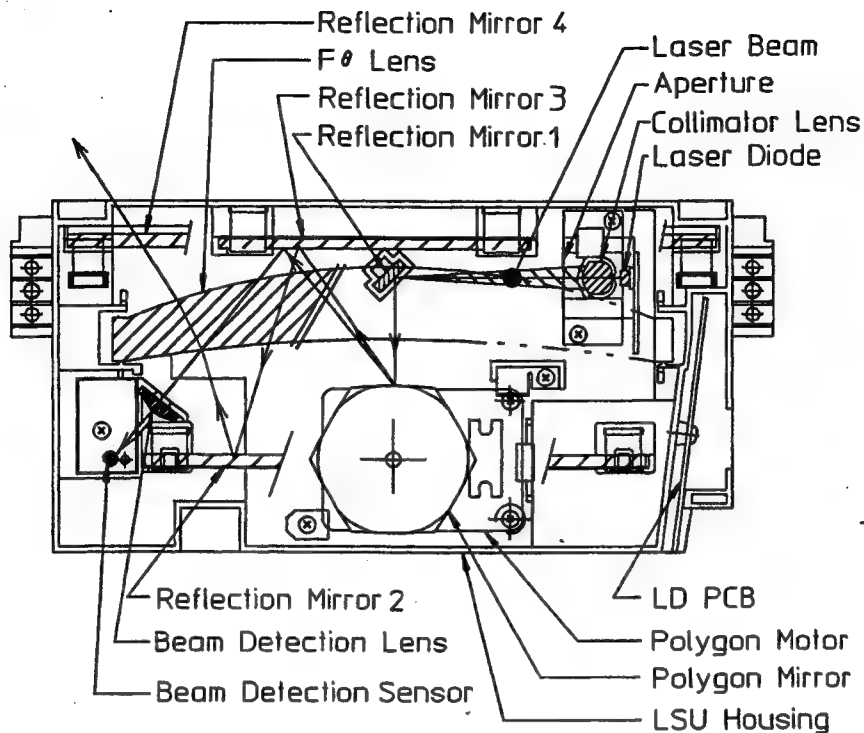
**Cleaning**

After transfer, some toner may remain on the surface of the OPC Drum. A Cleaning Blade scrapes the OPC Drum surface, and the removed toner is moved into the Toner Waste Box, inside the Toner Cartridge.

**Fusing**

After separation, the paper passes through the Fuser Rollers and is subjected to heat and pressure in the Fuser Unit Assembly (431). Pressure between the Fuser Roller (414) [heated internally by the Fuser Lamp (408) to approximately 190°C ( $\pm$ 10°C) (or 374°F)] and Pressure Roller (409) fuses or bonds the toner into the paper.

## Laser Unit



### Laser

A 5 mW Laser Diode, with a wavelength of 780 nm ( $\pm 20$  nm), provides a modulated beam controlled by nVIDEO. The beam power on the drum surface is approximately 0.4 mW, and is controlled by the monitor circuit.

### Collimator Lens

This lens converges and focuses the laser beam, converting it to parallel light.

### Aperture

This controls the size of the laser beam.

### Polygon Mirror and Motor

The polygon scanner consists of a 6-sided mirror, directly driven by a Polygon motor, revolving at 10,000 rpm. The laser beam is reflected against these mirrors and swept over the recorded width in the scanning direction. This unit features a stable line scanning speed, a precision mirror reflection angle, a reflection free surface, and instant start.

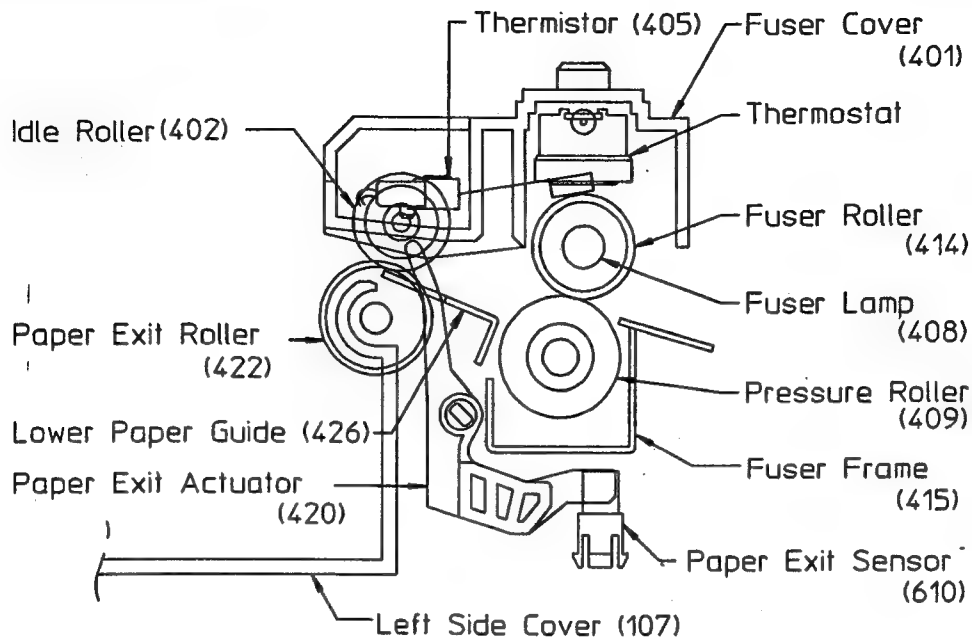
### Beam Detection (BD) Lens and Beam Detection (BD) Sensor

The BD Lens receives the reflected light from the Polygon Mirror and redirects it into the BD Sensor, which converts the laser beam into electrical signals and sets the start timing for the scanning line.

### f- $\theta$ Lens

This amorphous plastic, molded lens is designed to provide parallel laser light across the surface of the drum, providing a constant scanning speed.

## Fusing and Paper Exit

**Fuser Unit (431)**

The Fuser Unit, consisting of the Fuser Lamp, Fuser Roller, Pressure Roller, Thermistor, and Thermostat, bonds the toner into the paper using heat and pressure.

**Fuser Lamp (408)**

Located in the Fuser Roller is a Halogen lamp that serves as the heat source for the Fuser Roller.

**Fuser Roller (414)**

A Teflon coated roller supplies the heat for bonding the toner to the paper. The temperature of the surface is kept constant at approximately 190°C (±10°C) (or 374°F).

**Pressure Roller (409)**

This converted PFA tube Silicon Rubber Roller applies pressure to the Fuser Roller, assisting in bonding the toner to the paper.

**Thermistor (405)**

The Thermistor, a heat sensitive resistor, in contact with the Fuser Roller, monitors the surface temperature. The temperature detected is used to control the ON/OFF switching of the Fuser Lamp. It also acts as the primary overheating prevention device. A comparator circuit on the FCB PC Board acts as a secondary overheating protection and becomes active at approximately 200°C (392°F).

**Thermostat**

A Thermostatic Fuse, part of the power line for the Fuser Lamp, provides an extra overheating protection by opening when the Fuser Roller surface temperature reaches 230°C (446°F) and remains there for 1 minute. If the primary and secondary overheating protection does not halt the rise in temperature, the thermostat opens, removing power from the Fuser Lamp. When the Thermostat opens, it must be replaced.

**Paper Exit Sensor (610) [ESN PCB]**

This sensor detects the presence of printed paper at the exit. If no paper passes, or if paper is over the sensor too long, a "RECORDING PAPER JAM" message is displayed. When paper passes over the sensor, the output is Low (Low Active).



### **Thermal Fuse**

It is placed in series with the Thermostat on the power line of the Fuser Lamp and performs the tertiary overheating prevention (in case the Thermostat fails) by opening when the surrounding temperature reaches approximately 216° C (420.8° F).

### **Drive Assembly and Toner Cartridge**

The **Drive Assembly**, consisting of the Printer Motor (650) and the drive mechanisms, is activated by coupling and gear arrangements.

The **Toner Sensor (639)**, a magnetic sensor, detects the remaining quantity of toner in the Toner Cartridge. When the "TONER" lamp starts to blink, there is still enough toner left in the cartridge to print 100 pages (based on ITU-T Image No. 1). When toner has run out the display will show: "OUT OF TONER & INFO CODE 041" and the machine is disabled from printing any copies.

The **Toner Cartridge** consists of OPC Drum, Bias Charge Roller, Development Roller, Developing Blade, Cleaning Blade, Mixing Blades and Toner Waste Box.

The **OPC Drum** is an aluminum cylinder coated with an OPC (Organic Photo Conductor) sensitive material. This surface is photoelectric (retains the charge in the dark and releases the charge in the light). The potential differences on the surface (a static latent image) form a printed image.

The **Bias Charge Roller** provides a uniform charge on the OPC Drum surface.

The **Development Roller** supplies toner to the drum by rotating over the magnet.

The **Developing Blade** evens the toner on the Development Roller surface and also charges the toner by friction.

The **Cleaning Blade** cleans by scraping the remaining toner off the OPC Drum surface after transfer.

## **6.1.4 Covers and Enclosures**

The **Paper Guide Cover (110)** contains the Paper Guides (111),(112), which adjusts to properly feed original documents.

The **Left Side Cover (107)** has a Speaker (133) mounted inside.

The **Rear Cover (108)** shields the circuit boards and contains the Battery Cover (109) that provides access to the Battery and program ROM.

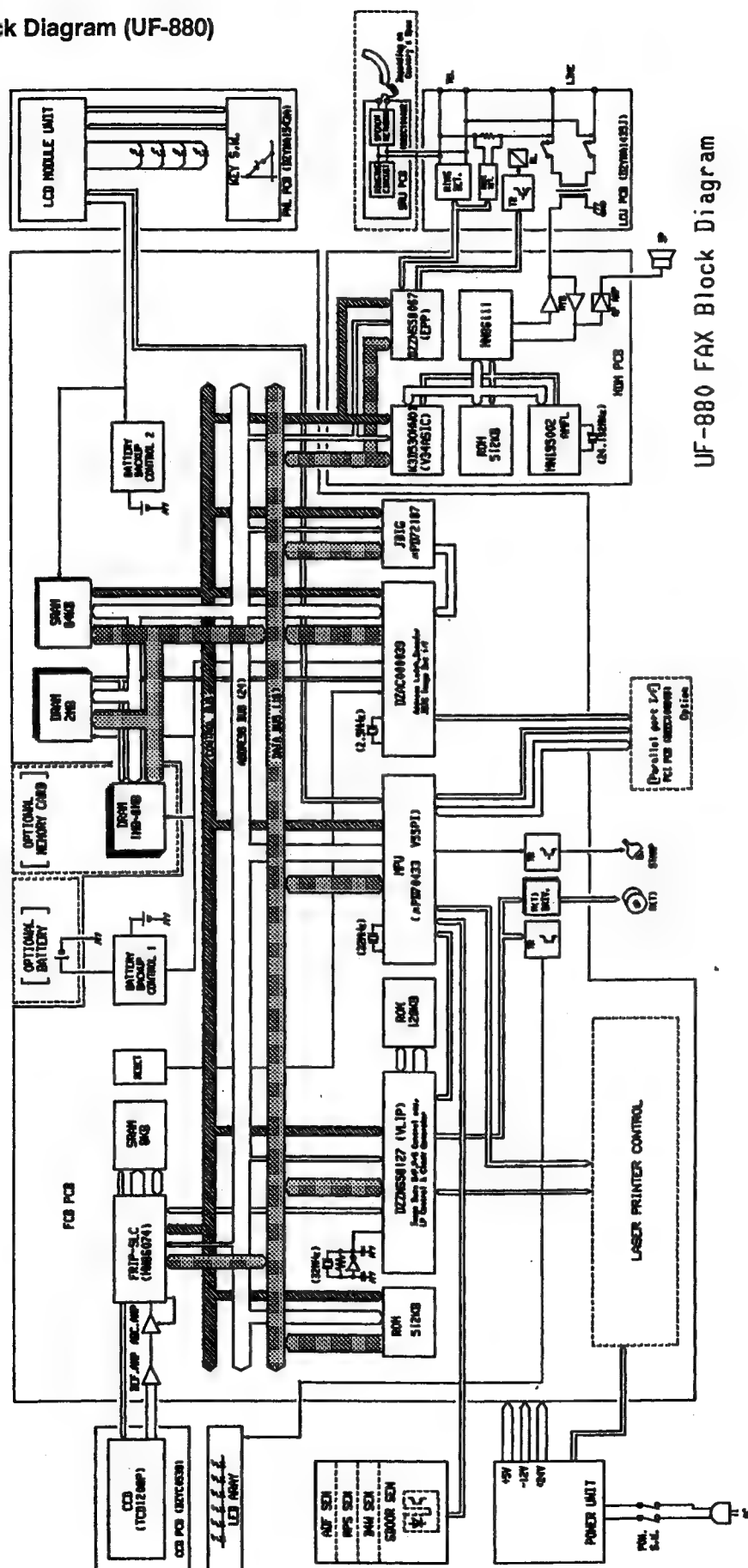
The **Printer Cover (122)** contains the Document Sub Tray (124), used to support legal size documents.

## **6.1.5 Control Panel**

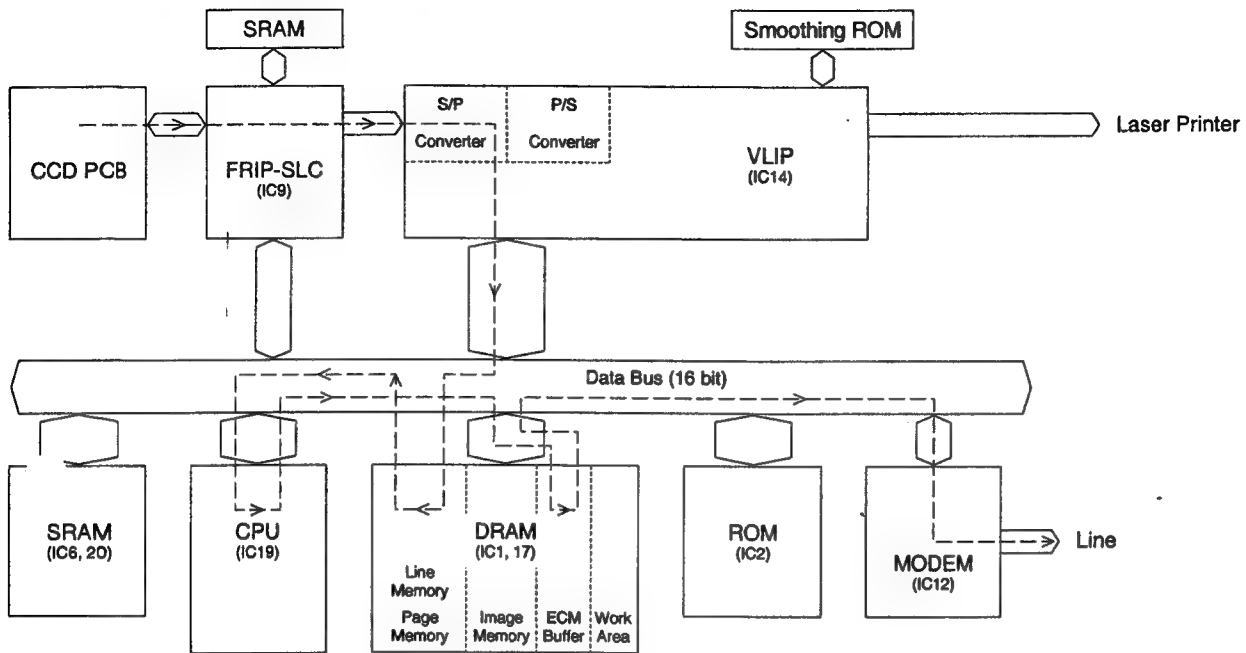
The **Control Panel** consists of the Panel PC Board (214) and Display PC Board (215), which displays the various status messages, and a membrane-type panel.



### 6.2.1.2 Fax Block Diagram (UF-880)

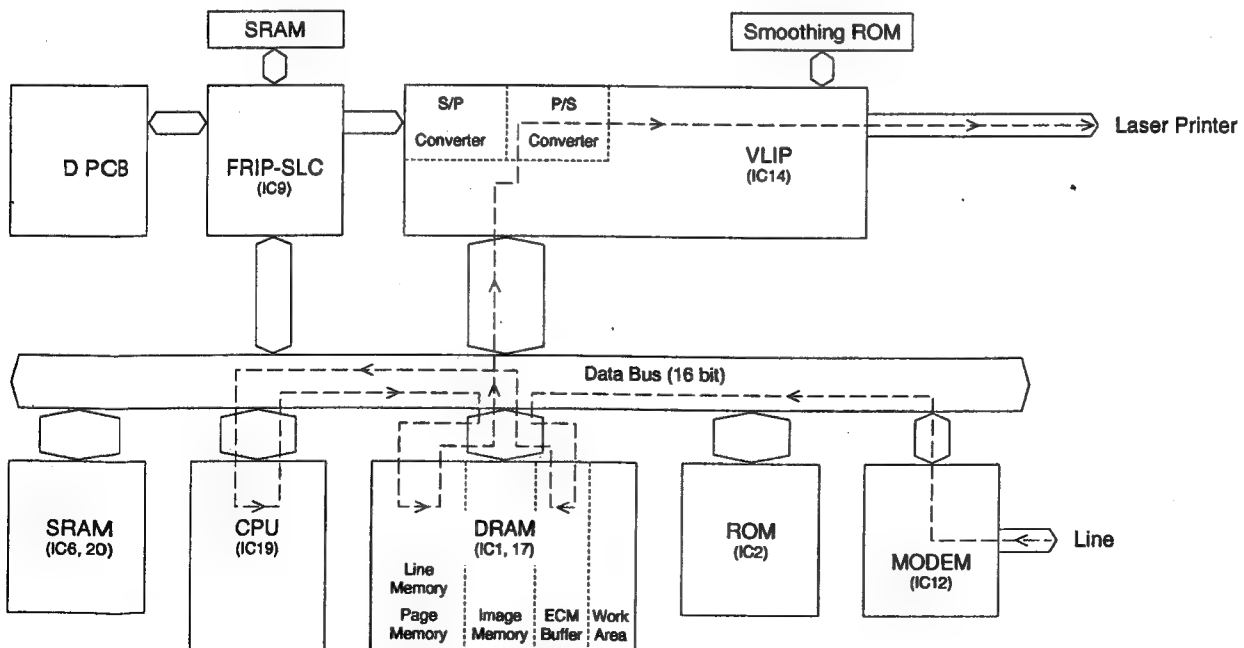


### 6.2.2.1 Signal Routing (UF-770)



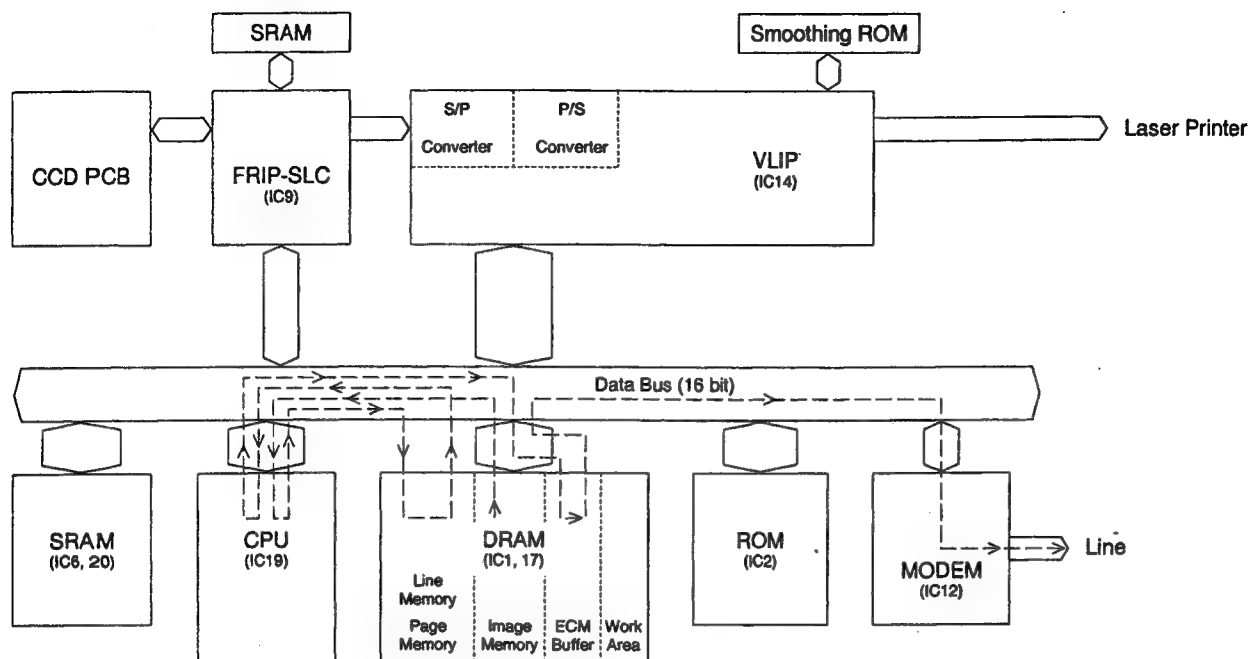
VLIP : V55 I/F & LP Image Processor

#### ADF Transmission



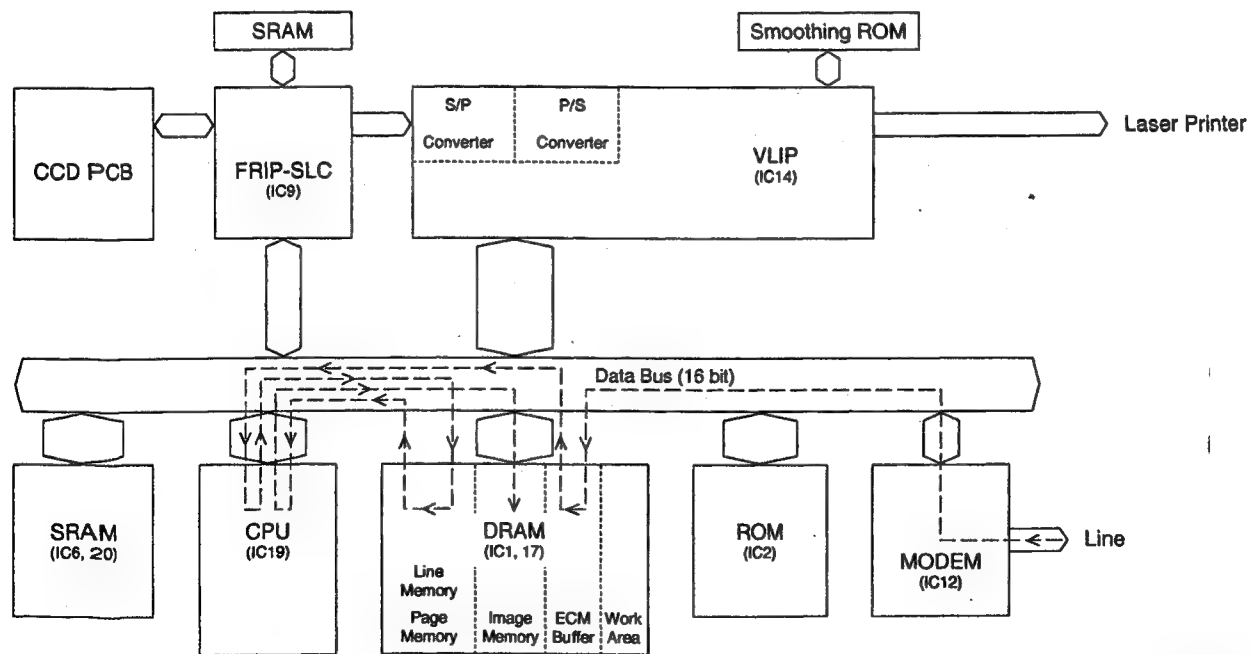
VLIP : V55 I/F & LP Image Processor

#### Direct Reception



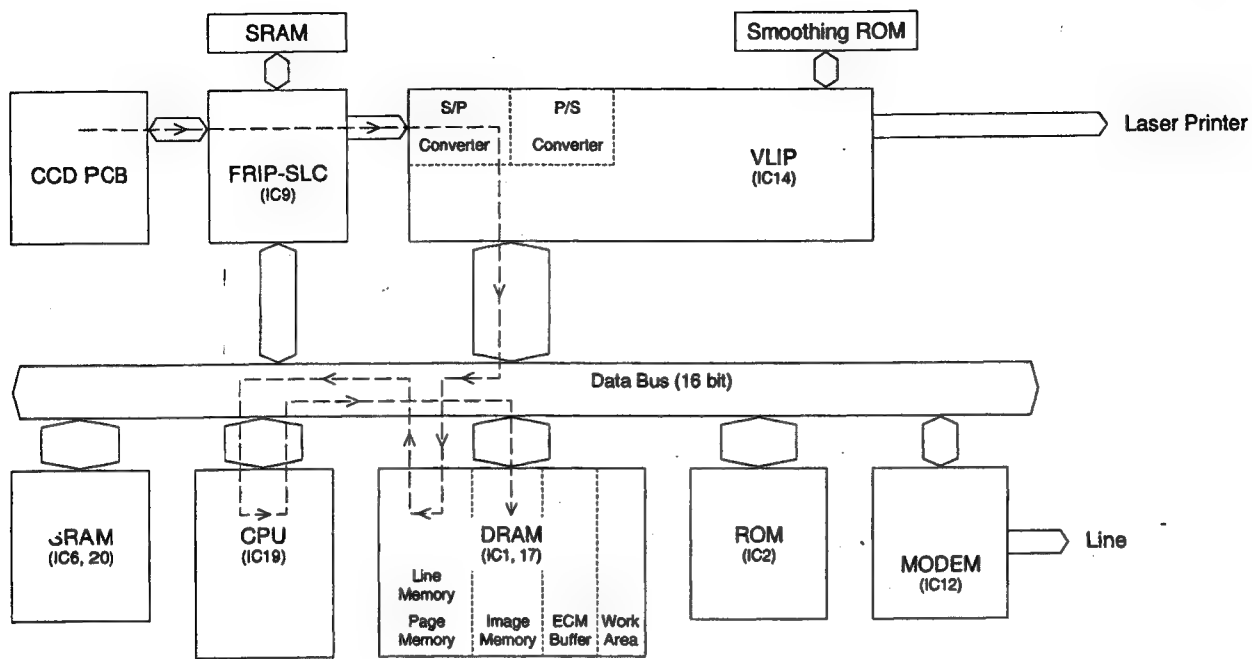
VLIP : V55 I/F & LP Image Processor

### Memory Transmission



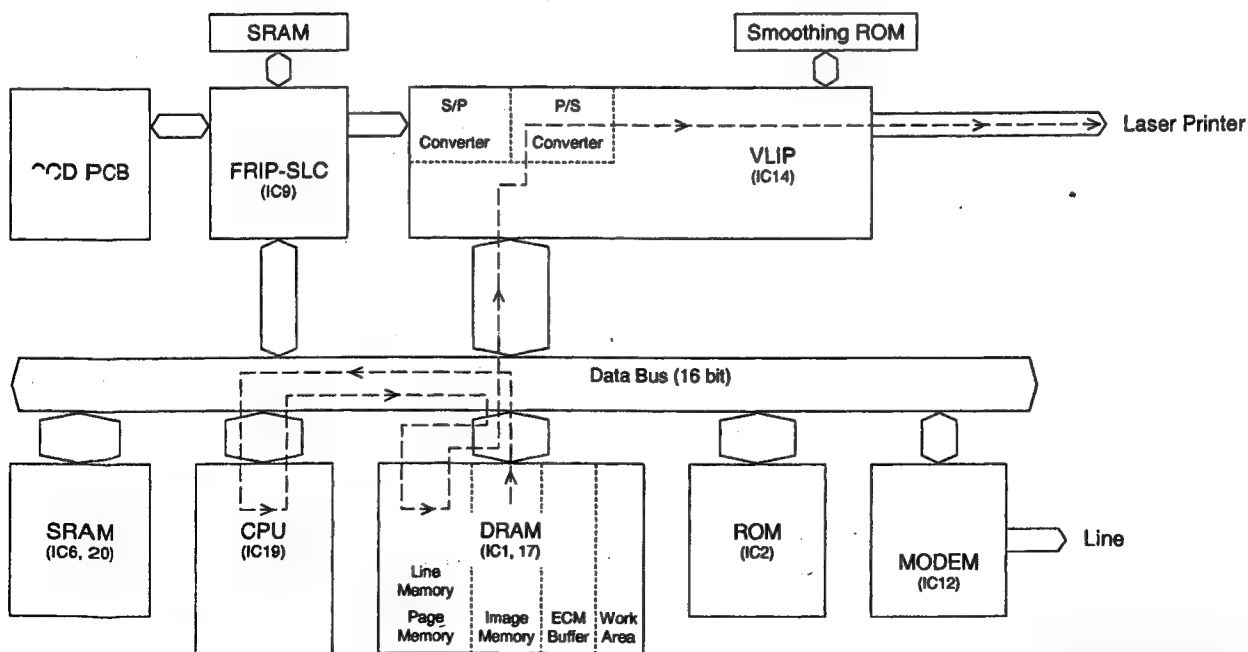
VLIP : V55 I/F & LP Image Processor

### Memory Reception



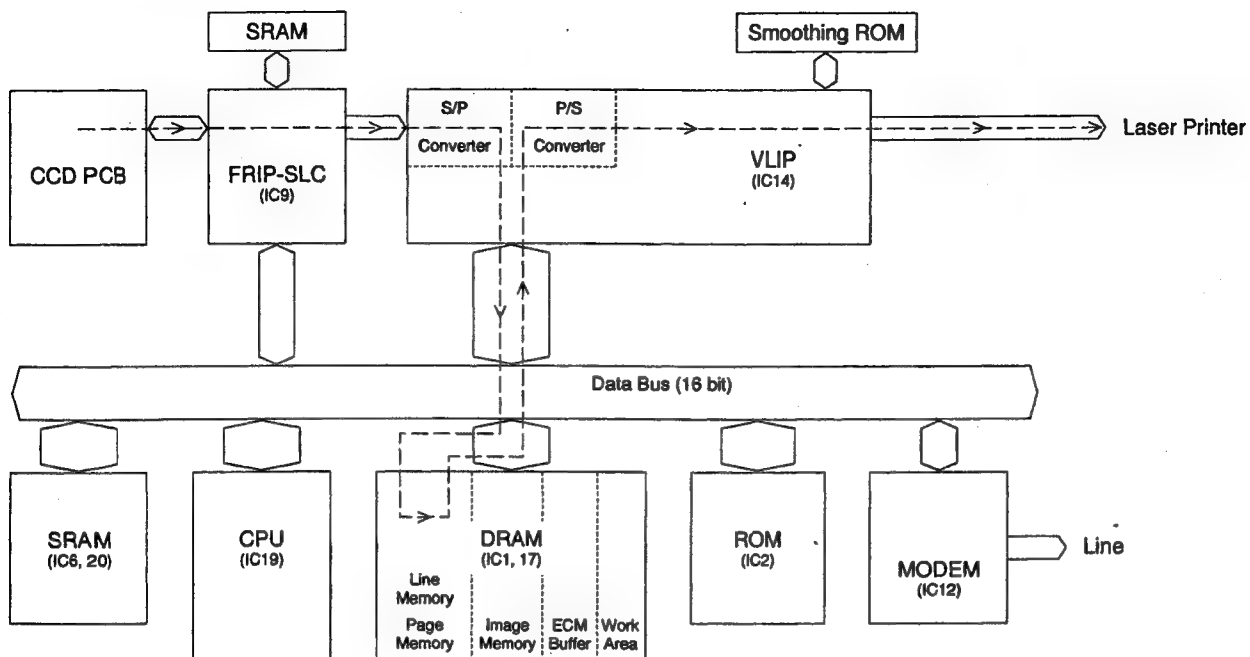
VLIP : V55 I/F & LP Image Processor

### Scan into Memory



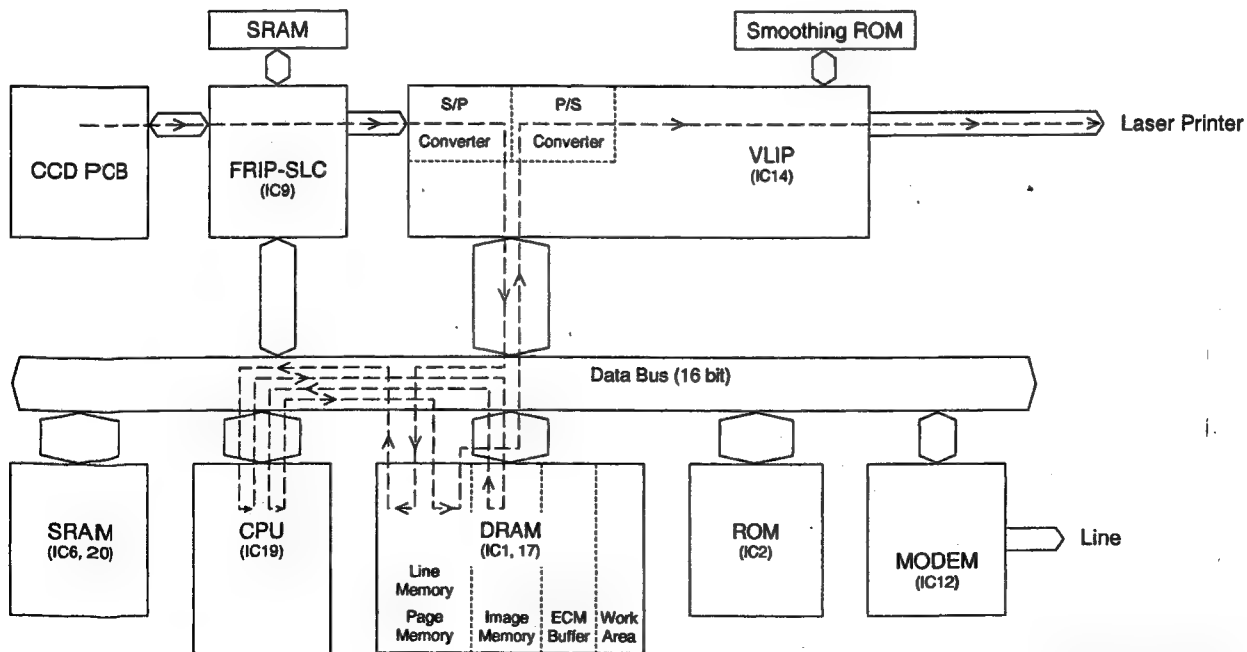
VLIP : V55 I/F & LP Image Processor

### File Print from Memory



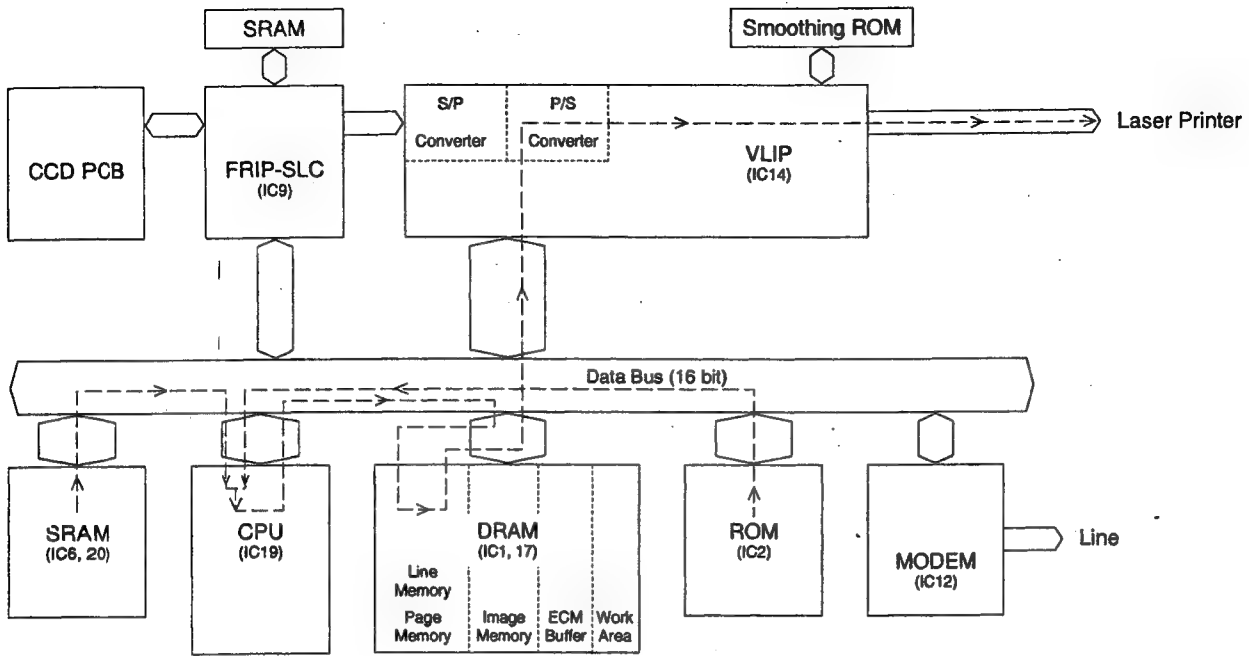
VLIP : V55 I/F & LP Image Processor

Single Copy



VLIP : V55 I/F & LP Image Processor

Multiple Copies

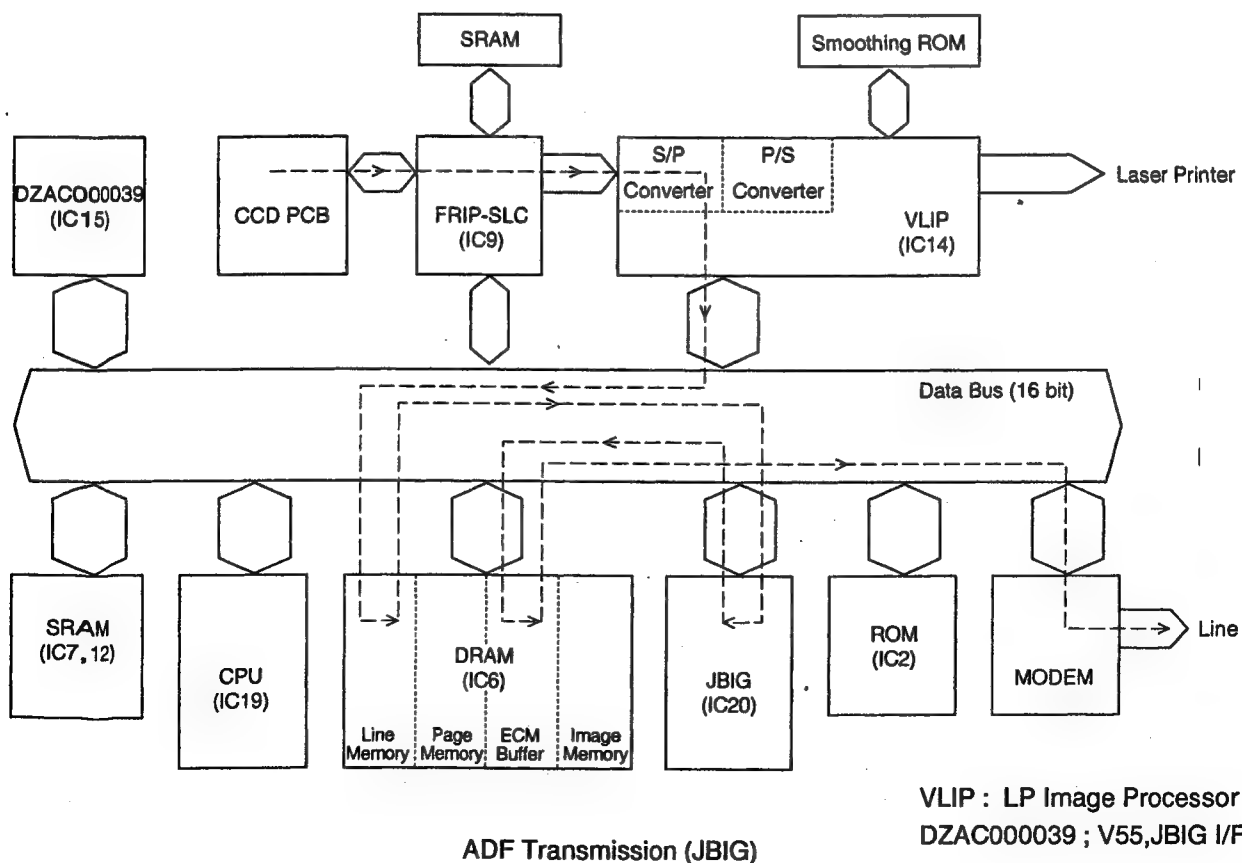
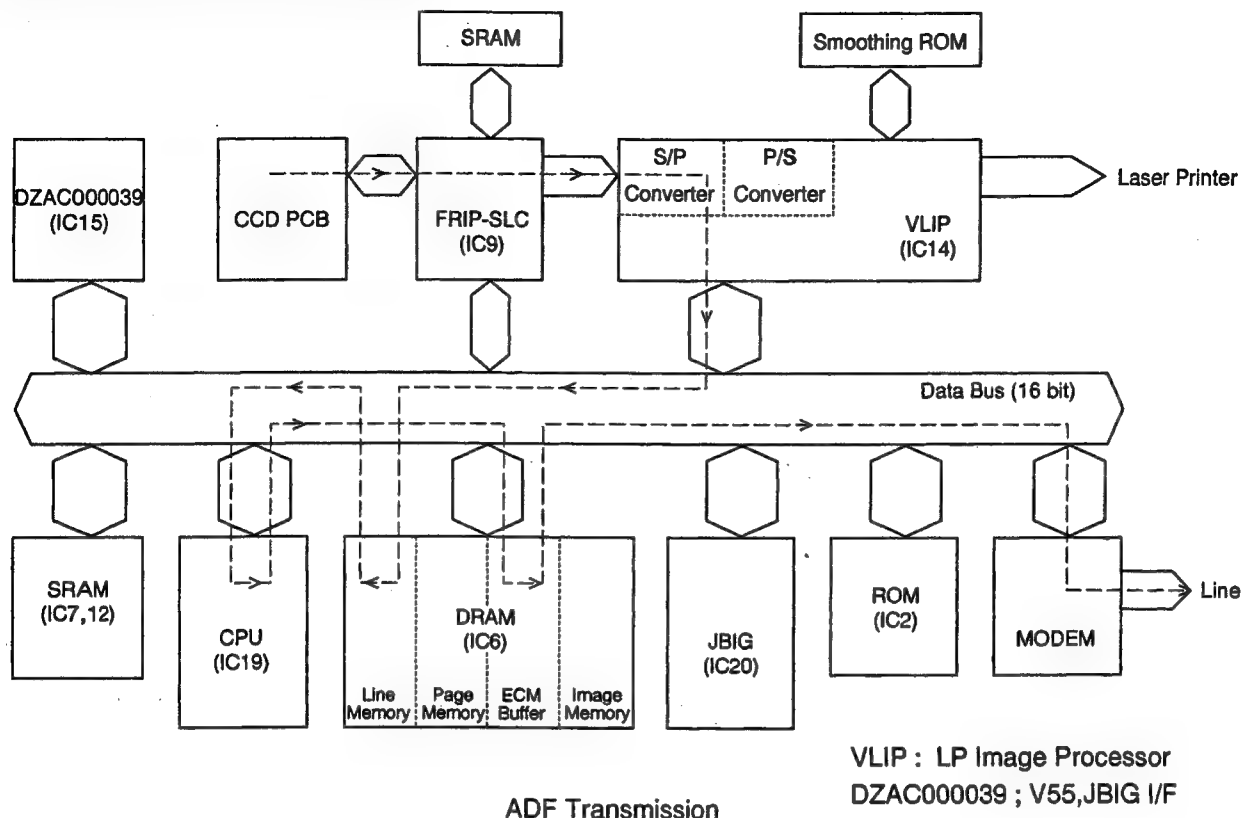


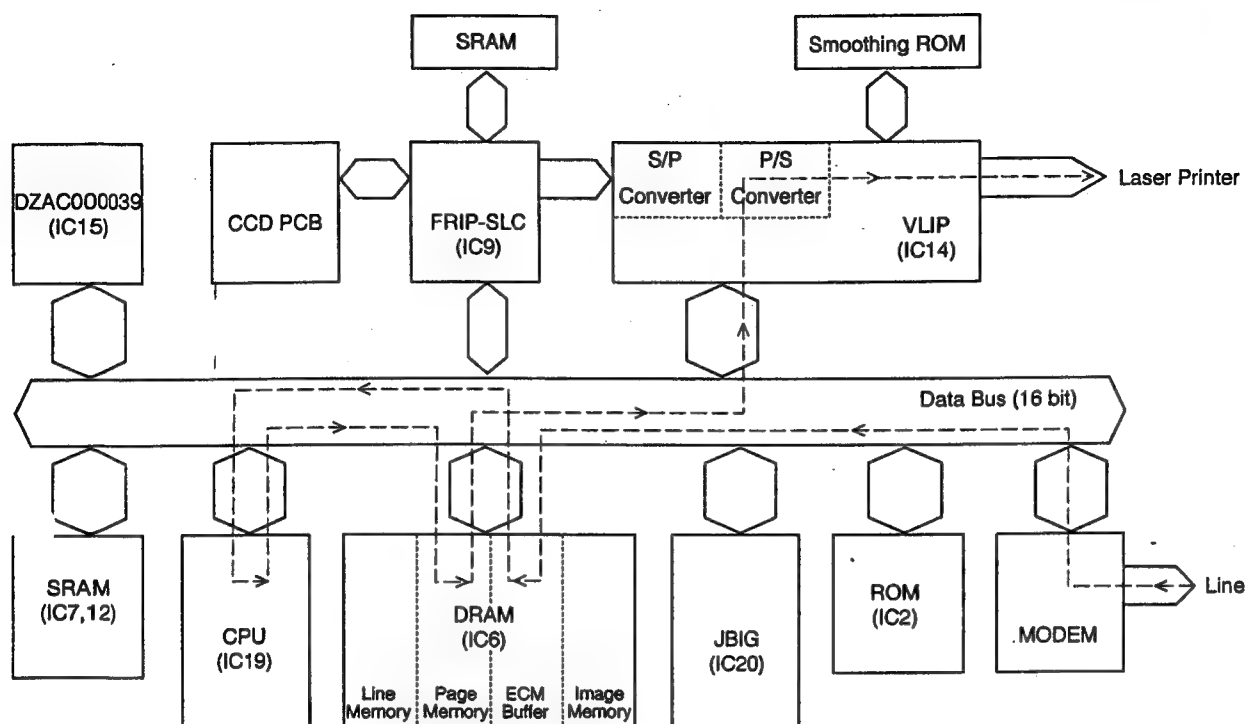
VLIP : V55 I/F & LP Image Processor

Report / List Printing



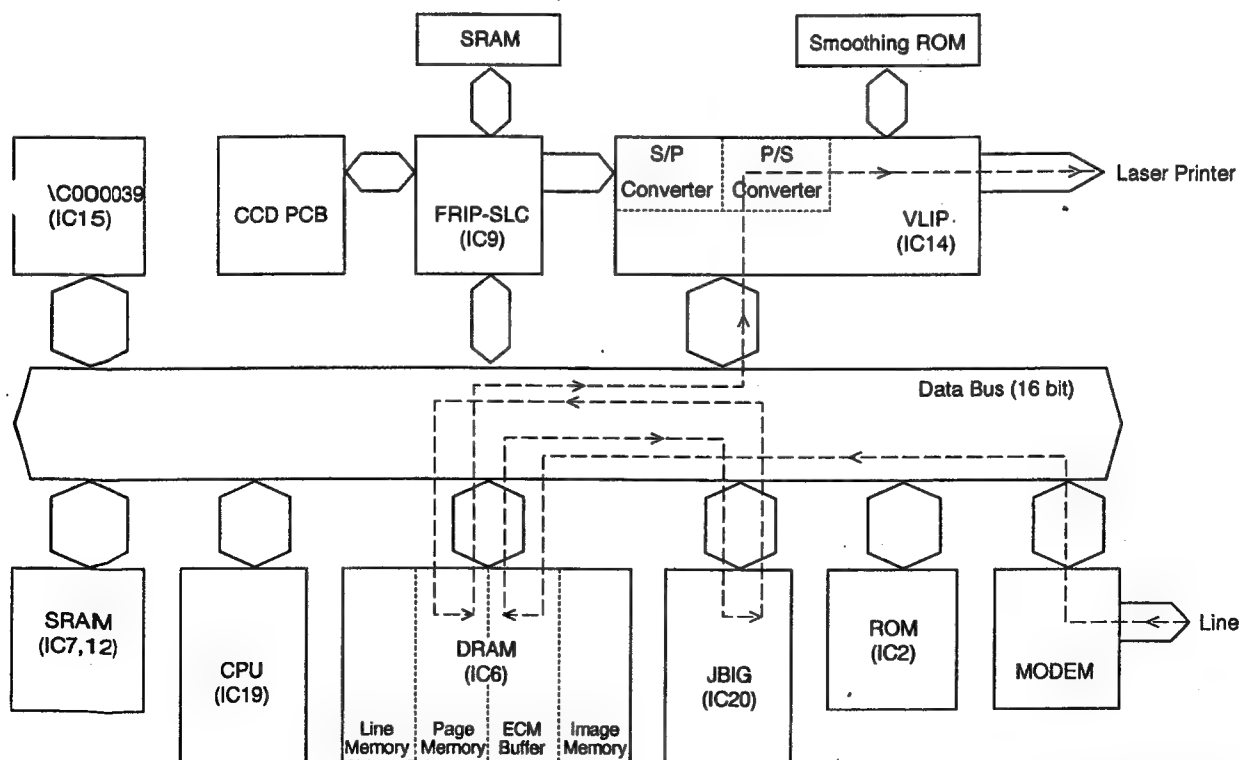
### 6.2.2.2 Signal Routing (UF-880)





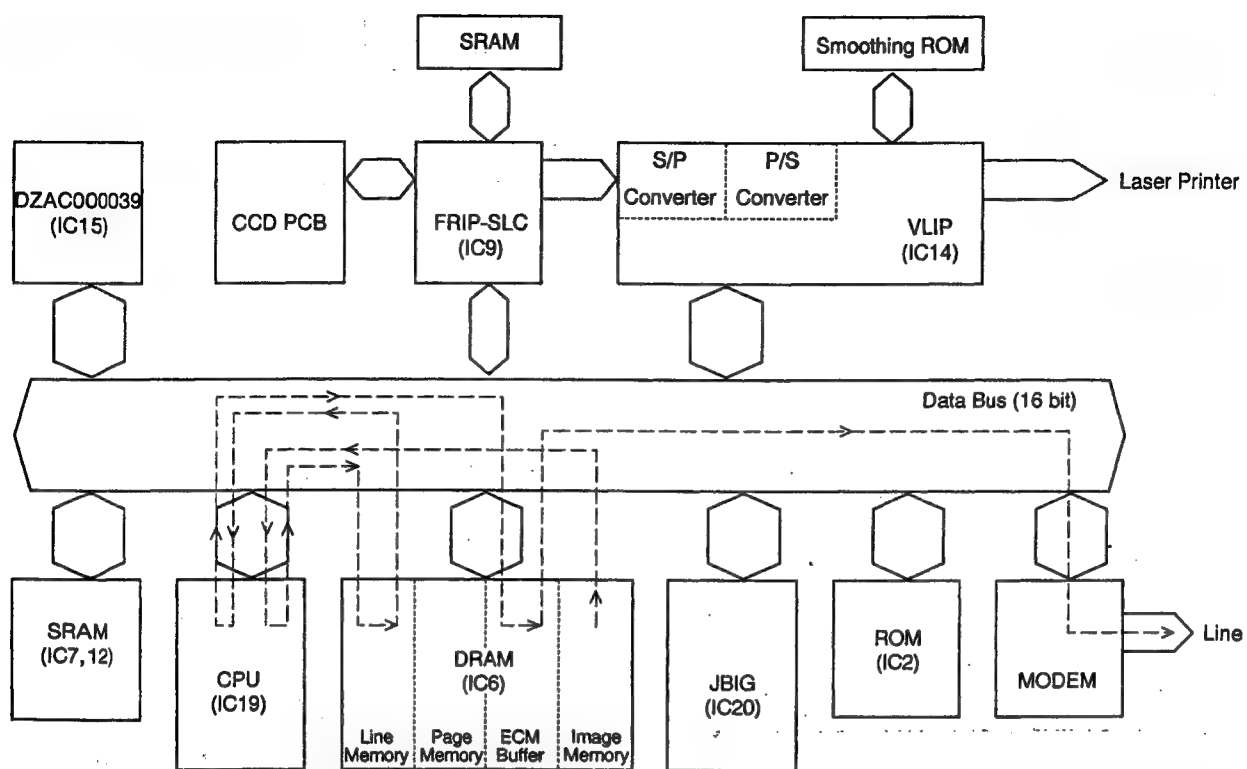
Direct Reception

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



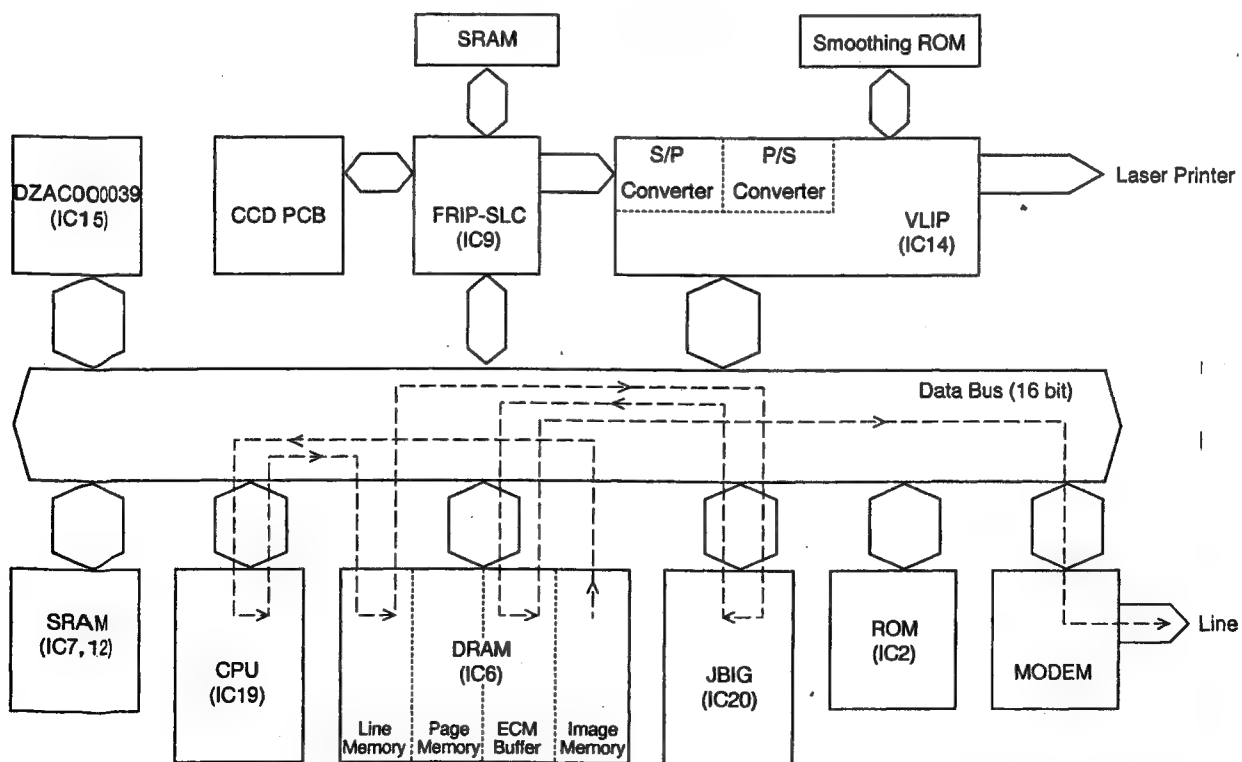
Direct Reception (JBIG)

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



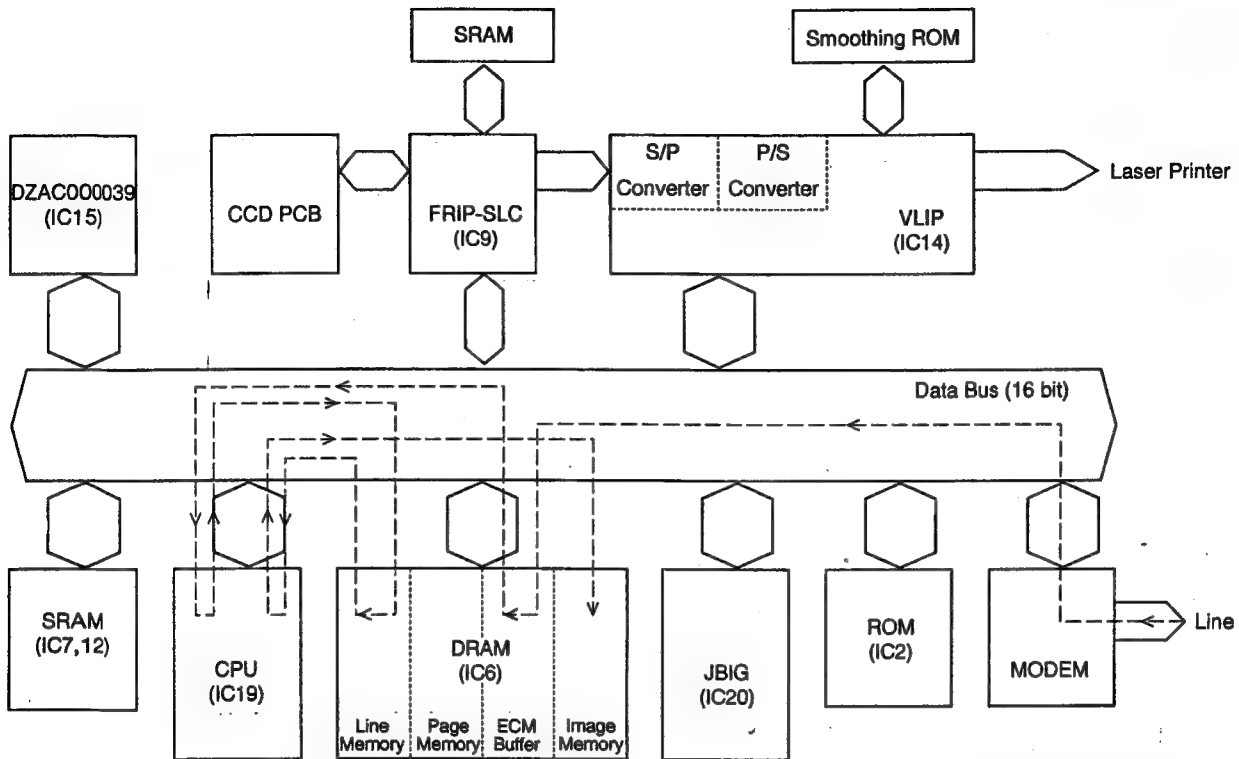
Memory Transmission

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



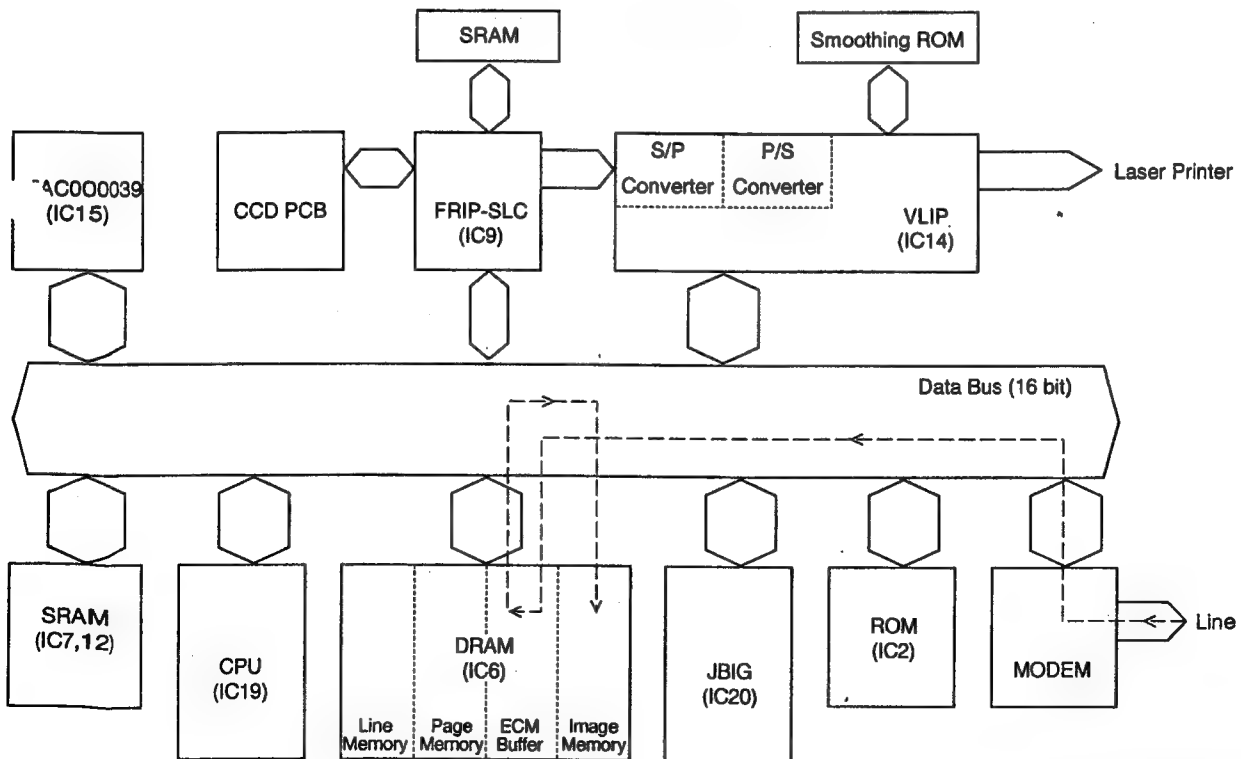
Memory Transmission (JBIG)

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



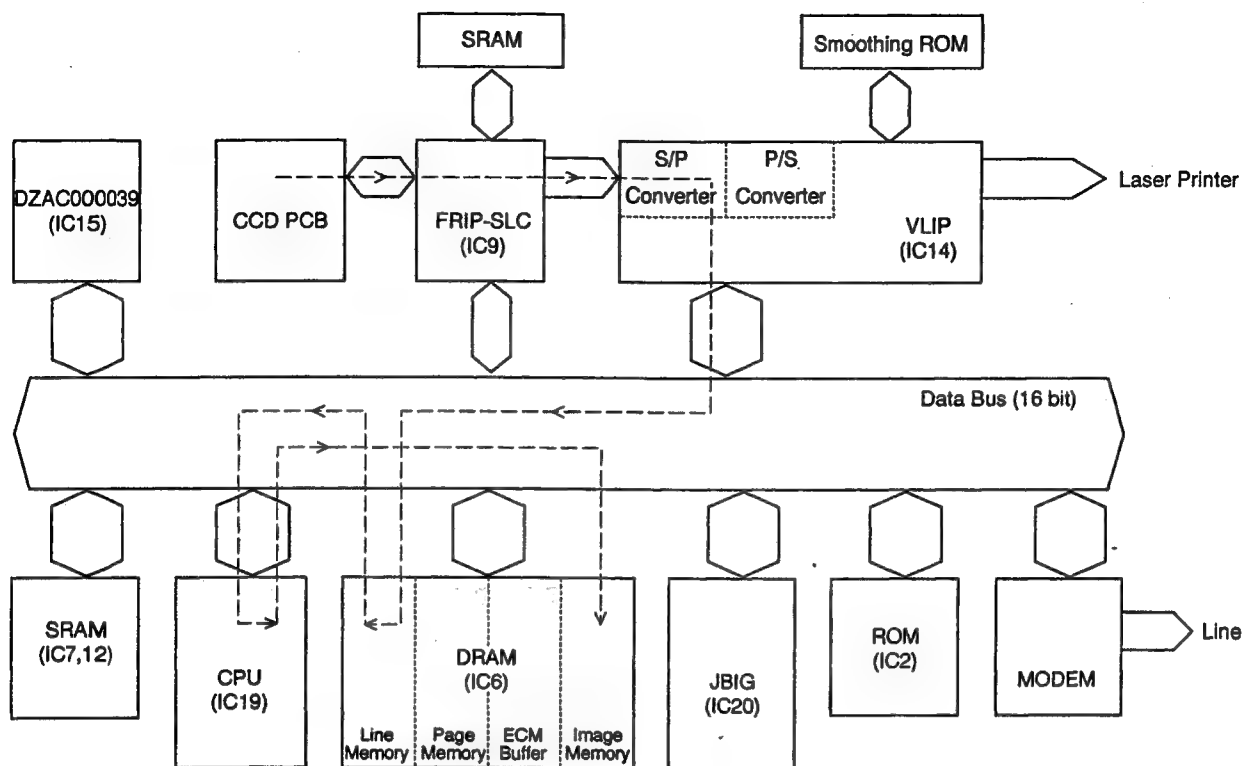
Memory Reception

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



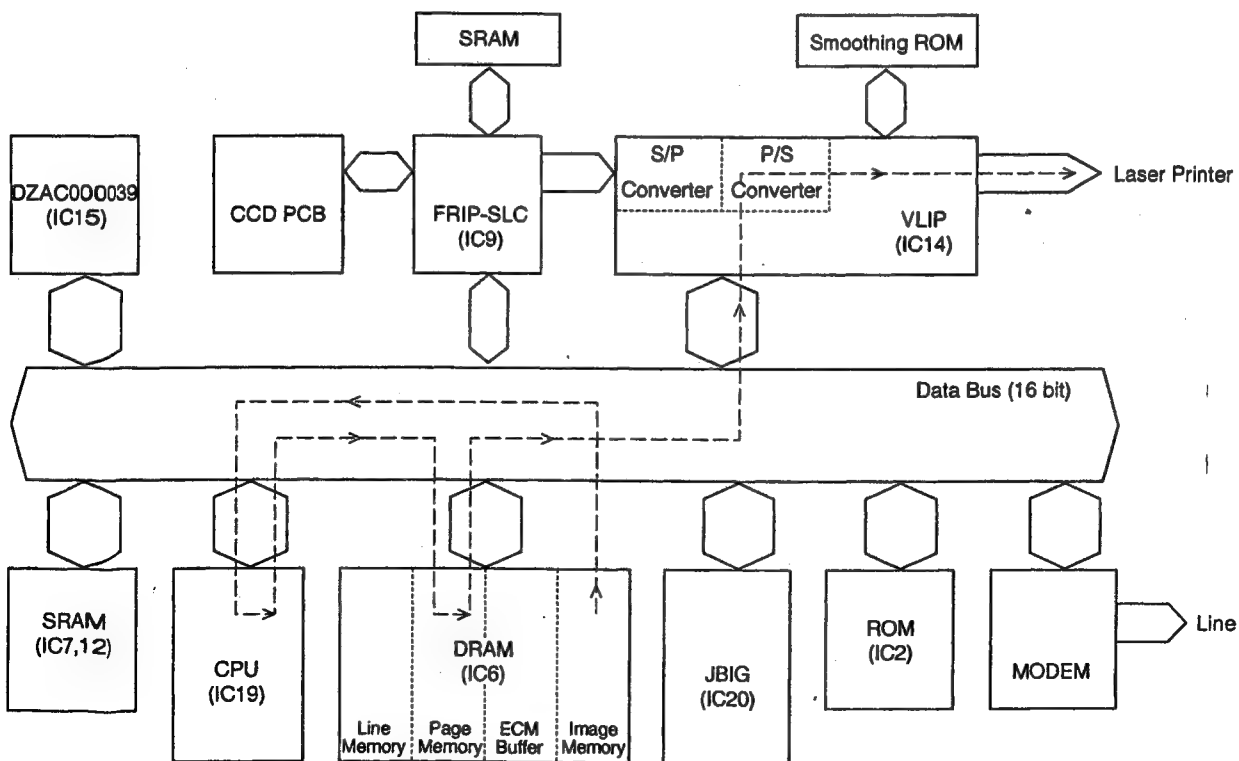
Memory Reception (JBIG)

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



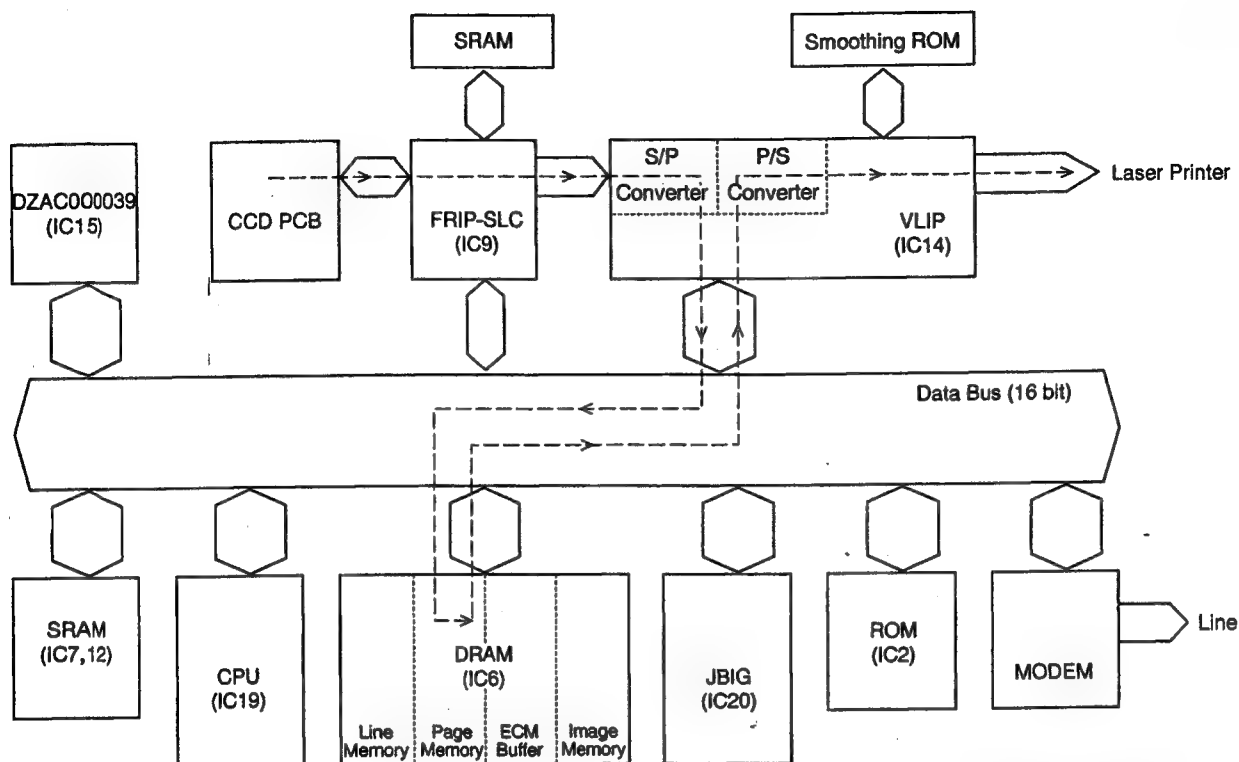
Scan into Memory

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



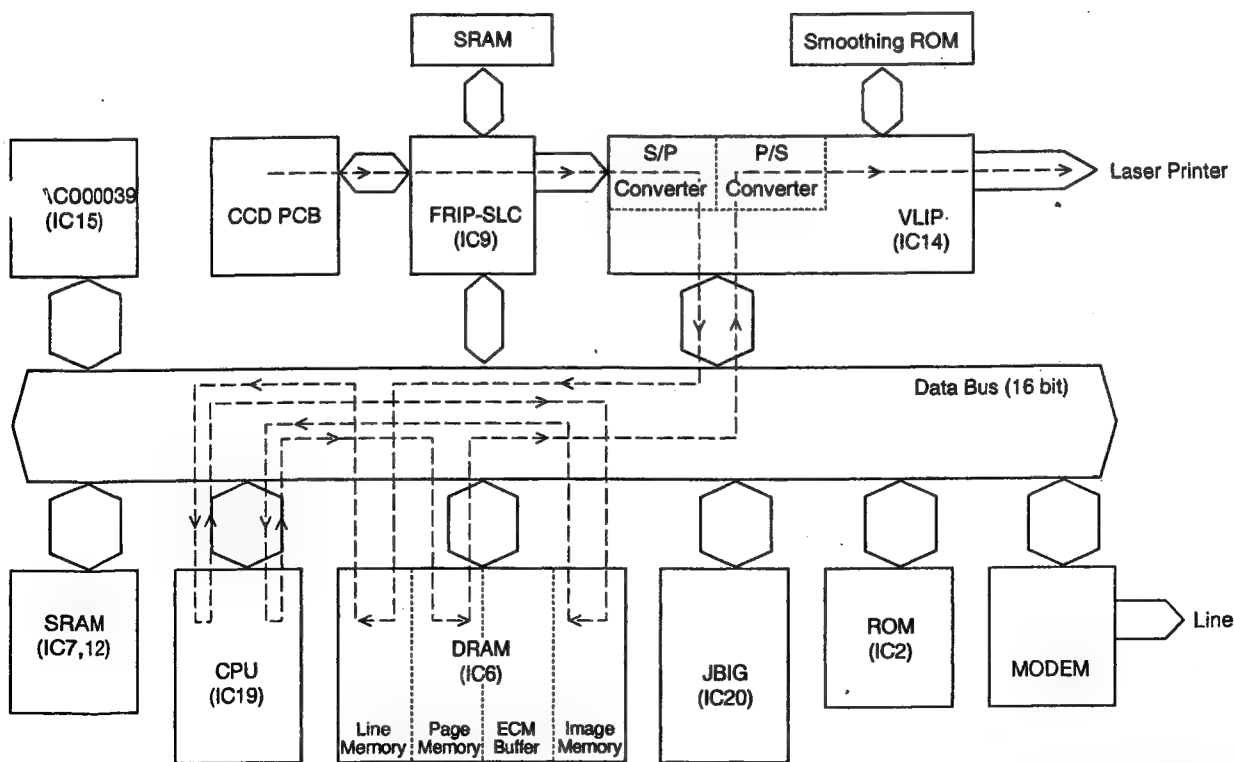
File Print from Memory

VLIP : LP Image Processor  
DZAC000039 ; V55,JBIG I/F



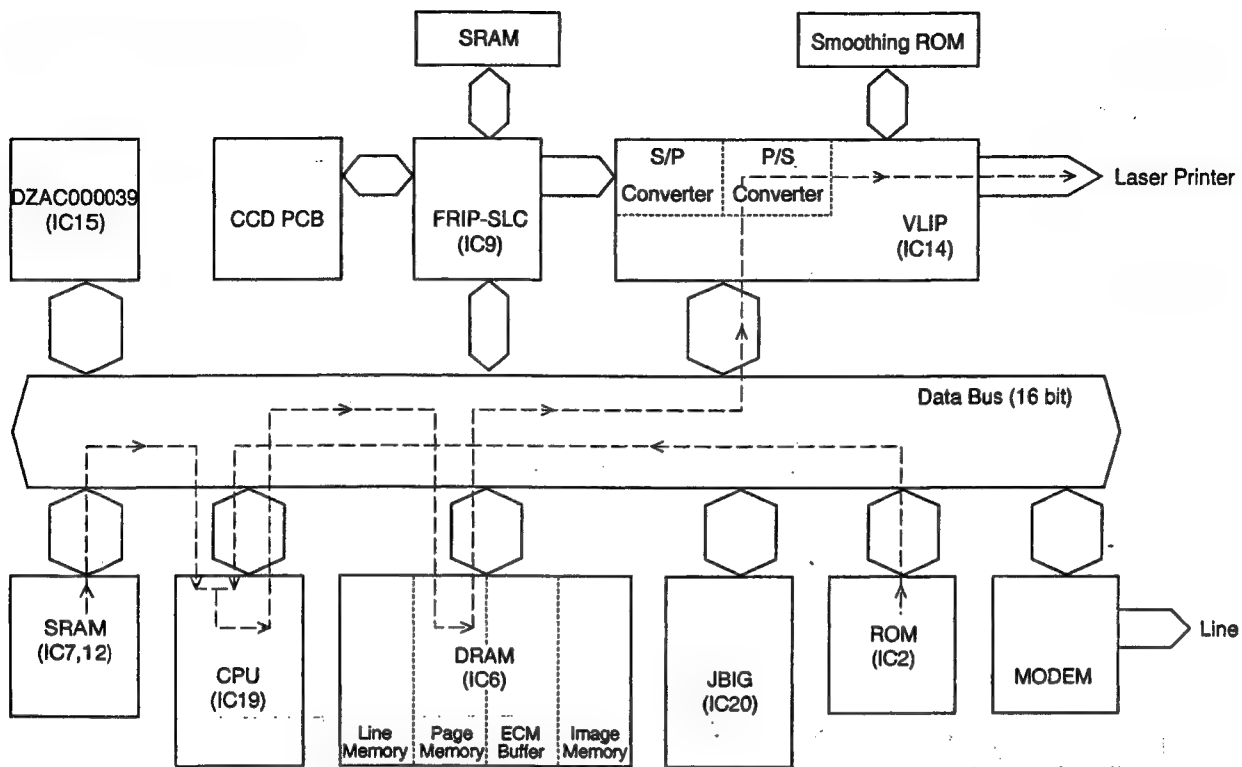
Single Copy

VLIP : LP Image Processor  
DZAC000039 : V55, JBIG I/F



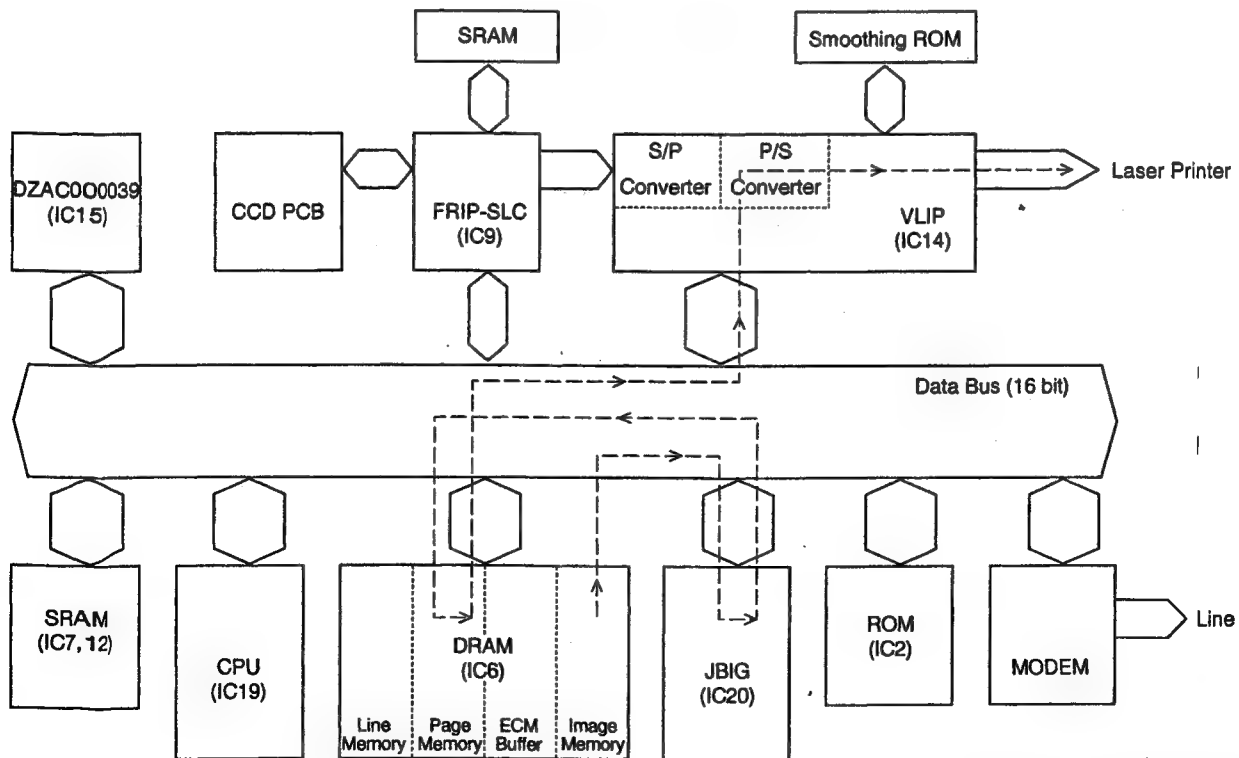
Multiple Copies

VLIP : LP Image Processor  
DZAC000039 : V55, JBIG I/F



Report/List Printing

VLIP : LP Image Processor  
DZAC000039 : V55,JBIG I/F

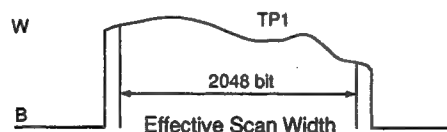
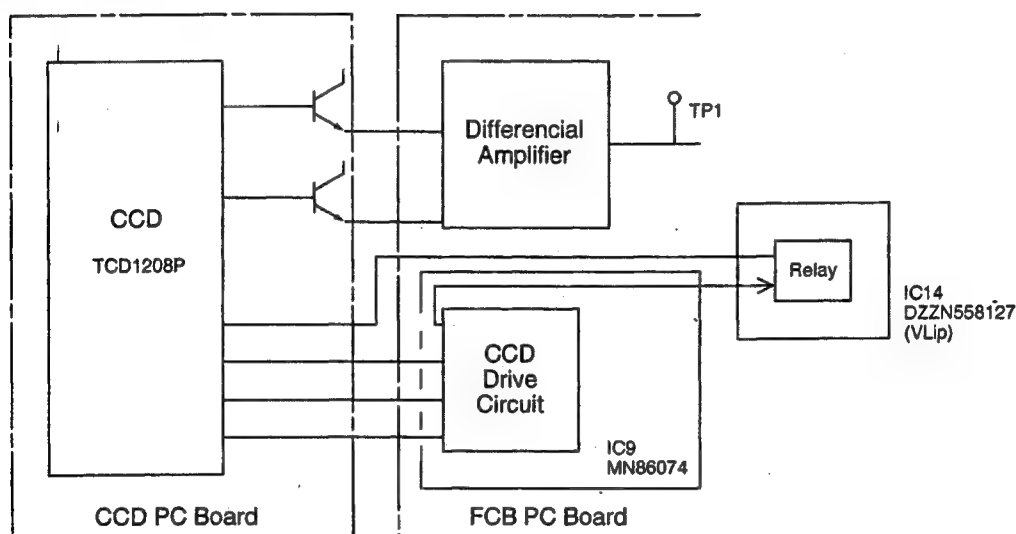


File Print from memory (JBIG File)

VLIP : LP Image Processor  
DZAC000039 : V55,JBIG I/F

### 6.2.3 Picture Signal Scanning Block

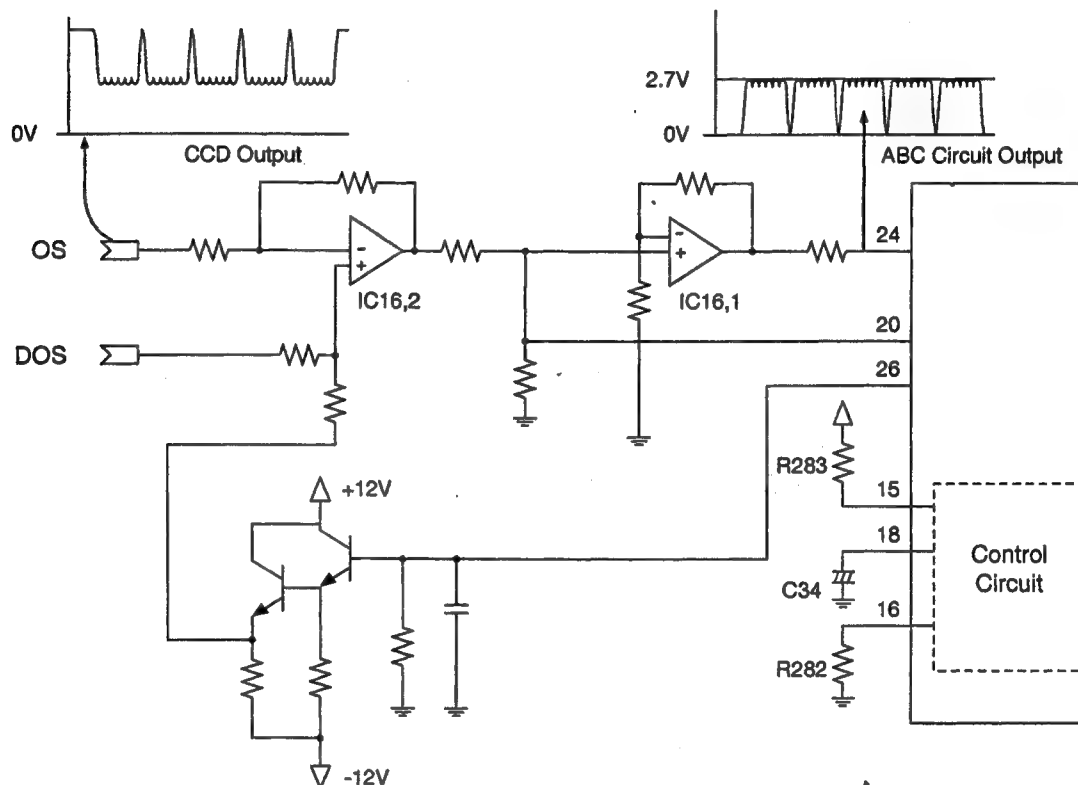
The image data read by the optical unit is input to the CCD mounted on the CCD PC Board, then transferred to the FCB PC Board after the optical information is converted into an electrical signal by the CCD. The following shows a block diagram of the picture signal scanning circuit. This picture signal scanning circuit consists of (1) ABC circuit, (2) shading correction circuit, (3) offset control circuit, (4) picture signal binary coding correction circuit and (5) reducing circuit.





### ABC Circuit

This circuit consists of IC16, IC9, C34, R282 and R283. Its function is to prevent deterioration of picture quality due to dirt on the document or degrading of the luminous energy of the LED light source. The picture signal from the CCD is amplified in IC16 and input to IC9, where it is converted from analog to digital and the shading is corrected. When the signal exceeds +2.7V as the result of this amplification and correction, capacitor C34 is charged through R283. This charging voltage lowers the level of the picture signal input to IC16. When the picture signal voltage rises, this charge voltage becomes higher. When the picture signal level lowers due to the background color, etc., of a transmitting document, the voltage of the charged capacitor C34 is discharged through R282. Consequently, the output of the ABC circuit is kept constant to maintain the picture quality, regardless of changes in the CCD output level.



### Shading Correction Circuit

The Shading Correction Circuit, included in IC9, is provided to correct for reduction in lamp intensity around the optical lens and LED intensity distortion due to shading of each bit. This circuit scans the reference white on the transmitting document plate immediately before the document reaches the scanning position and writes a compensation value according to the distortion of the waveform, at the time, into the S-RAM (IC3). When the actual picture signal is input, the circuit corrects the picture signal shading, according to this compensation value. This shading is carried out for each page during transmission or copy.

### Offset Control Circuit

The Offset Control Circuit consists of Q22 (UF-880: Q7), Q23 (UF-880: Q8), IC9 and IC16, and controls the black level of the CCD output to be at 0V by using the IC16 input.

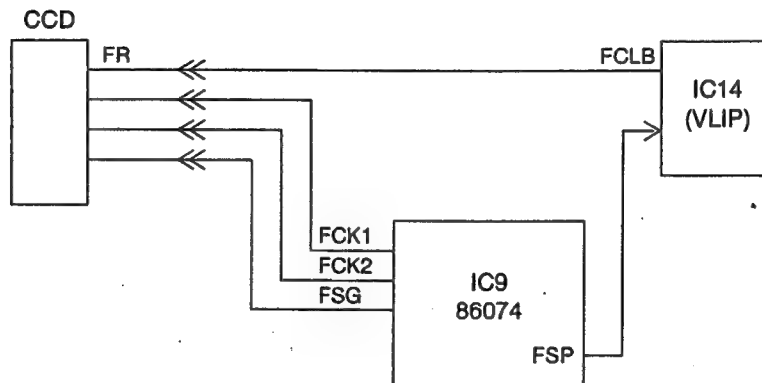
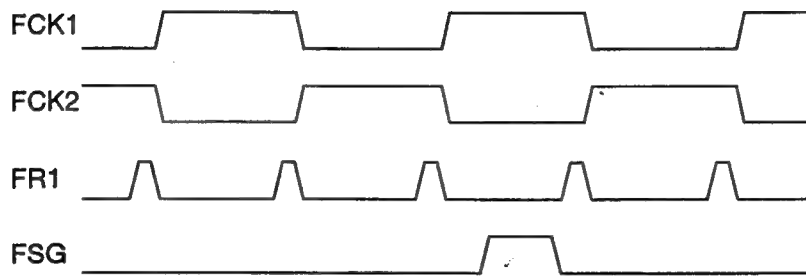
### Picture Signal Binary Coding Correction Circuit

The Picture Signal Binary Coding Correction Circuit is included in IC9. It is used to obtain a binary coding signal which is a corrected picture and error diffused signal of a false halftone signal, which is detected from a shaded picture signal.

#### 6.2.4 CCD Drive Clock Generator Circuit

This circuit is also contained in IC9. Its function is to generate FSG, FCK1, FCK2 and FR1 clock signals, which are required for driving the CCD. These clock signals are generated by the system clock generator circuit derived from the 8 MHz clock signal that is input to IC9. Its timing chart is shown below.

The FR clock supplied to the CCD is output from the FCLB of IC14 (VLIP). The FCLB clock of IC14 is derived from the FSP clock of IC9 (MN86074) generates the timing of the FR clock to drive the CCD.



## 6.2.5 Picture Quality Control Circuit

This circuit consists of a recording picture control standard cell IC14 (DZZNS58127 or "VLIP"), an interpolation table ROM (IC18), line memory for interpolating (SRAM) and its peripheral circuitry.

The recording picture control standard cell (IC14) inputs the parallel data from the system bus, conducts picture quality correction (smoothing), reduction, synchronization control, etc., then sends this data to the printer. These functions are as follows:

### Picture quality correction circuit (smoothing)

Compares the picture element with 15 surrounding picture elements, determines the interpolation data from the interpolation data ROM, and smoothes out diagonal lines, etc., on the recorded picture.

### Image range isolation circuit

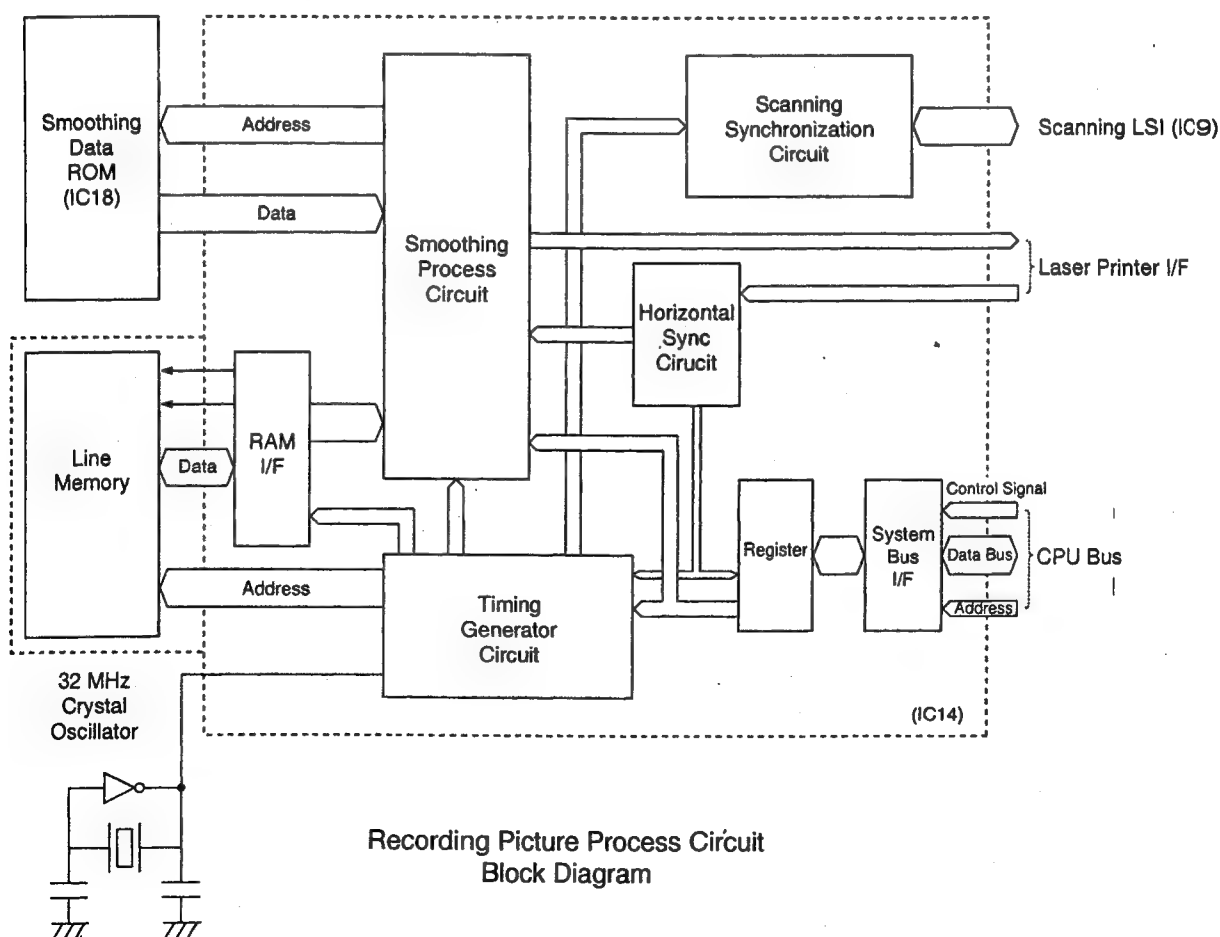
Identifies the halftone picture range and controls smoothing to eliminate blotching of the recording picture which has undergone error diffusion or other processing.

### Reduction circuit

This circuit is used to process the received data so that it fits on the recording paper, according to the Fax Parameter settings.

### Synchronization control circuit

This circuit is used to synchronize the output recorded data with the horizontal synchronizing output signal from the printer for each line. Within a line, it is synchronized with the dot clock signal. The dot clock signal is provided by dividing the crystal oscillator frequency from the Extend Generator Circuit (32 MHz) by 5.

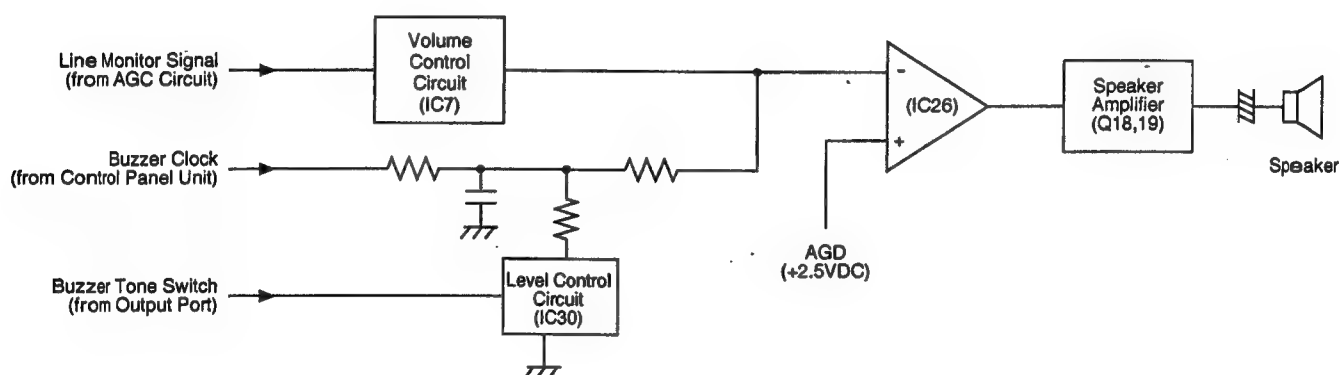


Recording Picture Process Circuit  
Block Diagram

### 6.2.6.1 Line Monitor Circuit (UF-770)

The Line Monitor Circuit consists of an operational amplifier (IC26), analog switch (IC7), speaker amplifier (Q18,19) and its peripheral circuits. Its function is to monitor the dial tone, DTMF tone, response signals, etc. over the speaker. It also sounds the output of the key touch tones, alarm tones, etc. from the panel CPU over the speaker. The received signal from the LCU PCB passes through an AGC circuit (IC26, Q7, Q8) and is then input to the analog switch for volume control. It passes through the operational amplifier (IC26) and is then input to the speaker amplifier (Q18,19), where it is amplified to a level sufficient to drive the speaker. The volume can be set in 9 steps (including OFF) from the panel.

Key touch tones, etc. from the panel are mixed by the operational amplifier (IC26) and input to the speaker amplifier. The key touch tones and alarm tones can be set to one of three levels, High, Low, or Off, with analog switch IC30.

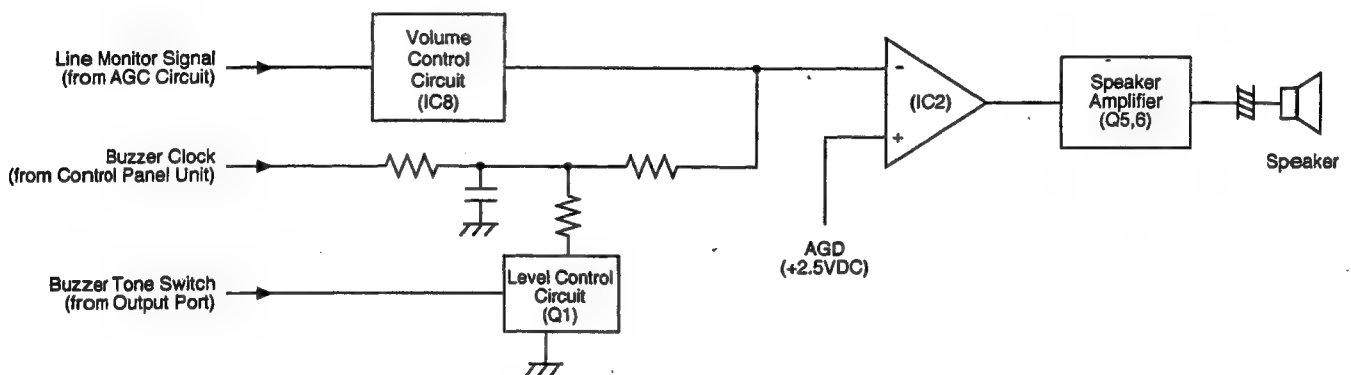


Line Monitor Circuit  
Block Diagram

### 6.2.6.2 Line Monitor Circuit (UF-880)

The Line Monitor Circuit consists of an operational amplifier (IC2), analog switch (IC8), speaker amplifier (Q5,6) and its peripheral circuits. Its function is to monitor the dial tone, DTMF tone, response signals, etc. over the speaker. It also sounds the output of the key touch tones, alarm tones, etc. from the panel CPU over the speaker. The received signal from the LCU PCB passes through an AGC circuit (IC2, Q3,Q4 ) and is then input to the analog switch for volume control. It passes through the operational amplifier (IC2) and is then input to the speaker amplifier (Q5,6), where it is amplified to a level sufficient to drive the speaker. The volume can be set in 9 steps (including OFF) from the panel.

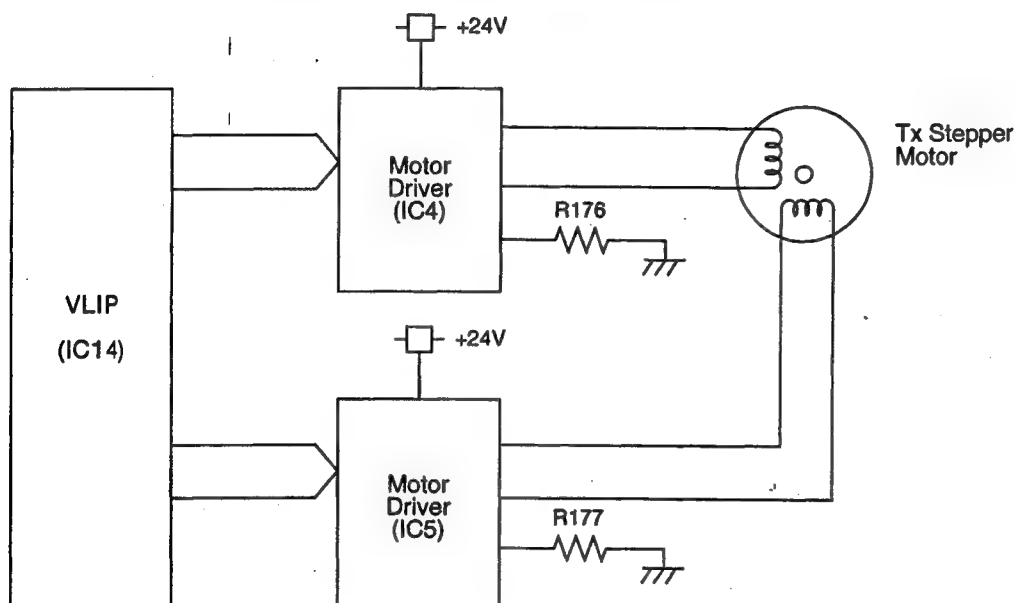
Key touch tones, etc. from the panel are mixed by the operational amplifier (IC2) and input to the speaker amplifier. The key touch tones and alarm tones can be set to one of three levels, High, Low, or Off, with transistor Q1.



Line Monitor Circuit  
Block Diagram

### 6.2.7 Transmit Motor Control Circuit

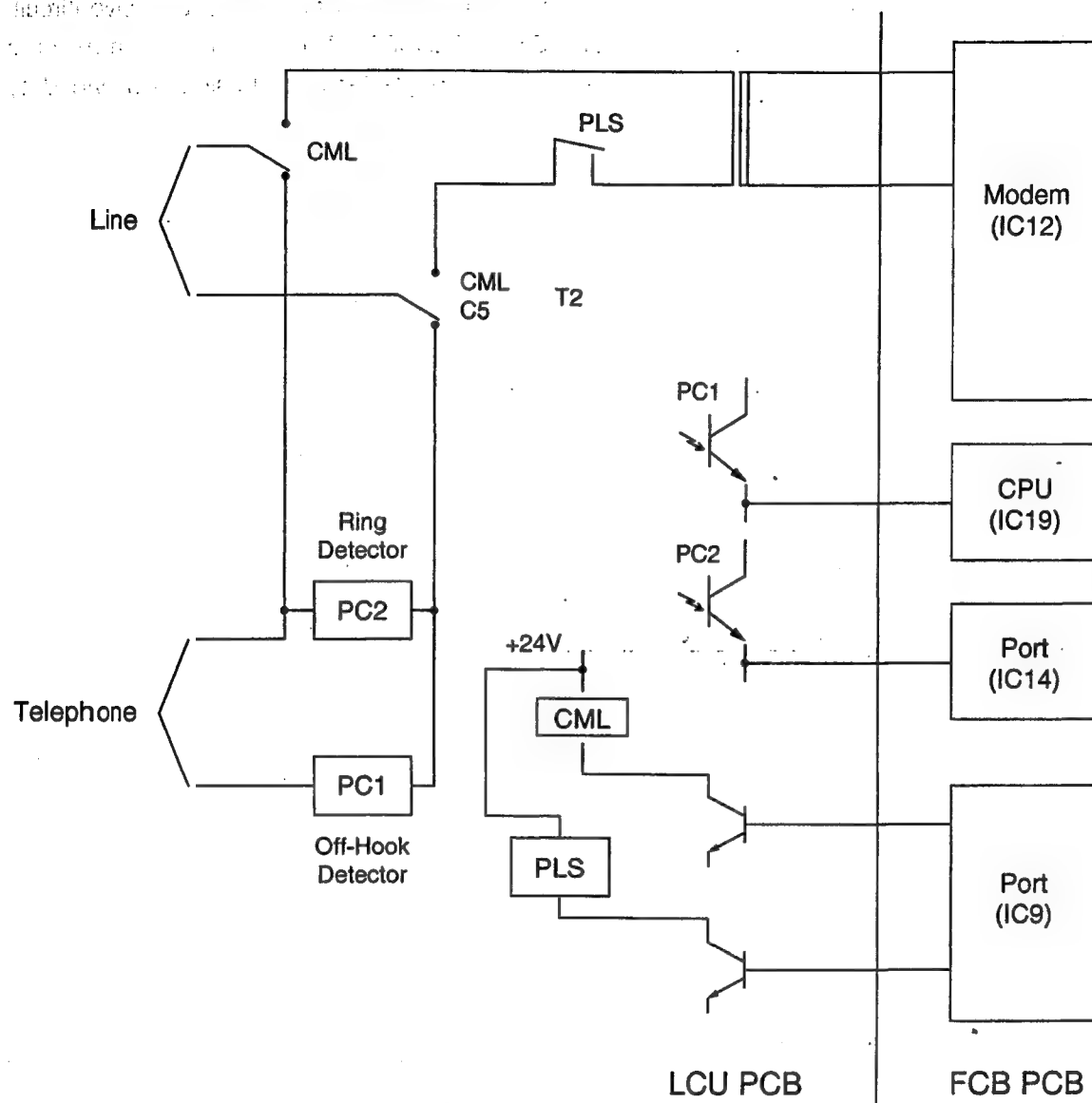
The transmit motor is a Hybrid type, two-phase bi-polar motor. The stepping signal and chopping current control signals (pTAPH, pTBPH, pTAI0, pTAI1, pTBI0 and pTBI1) are sent to the chopper drive circuit, comprised of IC4, IC5 and its peripheral circuitry, from IC14 (DZZNS58127) output port. The motor is powered by +24 VDC and is driven by a 1/2-phase excitation, and greater step division is provided by controlling the phase circuit in steps (micro-step control).



Tx Motor Driver Circuit Block Diagram

### 6.2.8.1 Line Control Board (UF-770)

The following shows a block diagram of the Line Control Board.

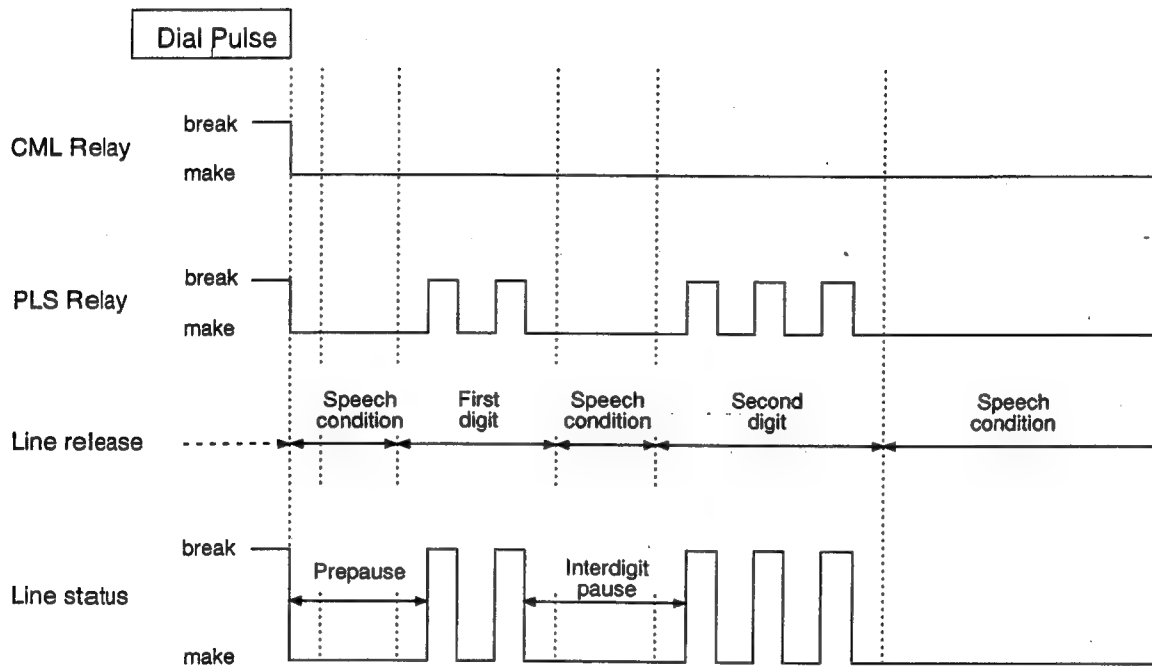


The **Ring Detector** consists of a photocoupler, PC2, and its peripheral circuits. The ringing signal is a half-wave rectifier in the Ring Detector, and transferred through the nCTON signal line to the CPU on the FCB PC Board. The CPU observes the signal to distinguish from signals caused by chattering.

The **Off-Hook Detector (External Telephone)** circuit consists of the photocoupler, PC1, and its peripheral circuits. When PC1 detects loop current flow, it emits a Low active output signal (nHKOF) to the CPU which monitors it for a specified time. If the CPU detects no change in the Low signal level, it determines that the External Telephone is Off-Hook.

### Dial Pulse Generator (UF-770)

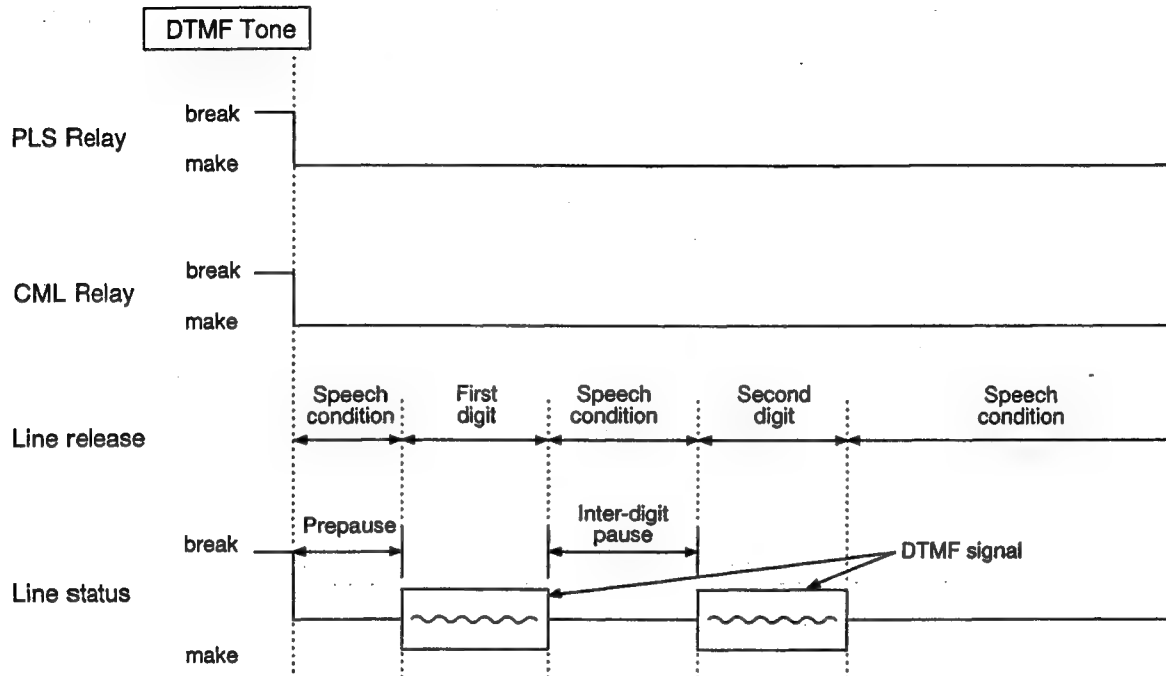
The circuit consists of the CML relay, PLS relay and their peripheral circuits. This circuit generates dial pulses. The CPU on the FCB PC Board controls all dial pulse generation sequences. It turns relay CML and PLS ON and OFF through the MN86074 (IC9). The status of the relays during dialing is shown below. When the absence of the terminating message is confirmed by the Off-Hook detector, the CPU turns CML relay ON to develop loop status (DC loop). After a few seconds, the CPU turns the PLS relay On and Off to generate dial pulses, making and breaking the loop.





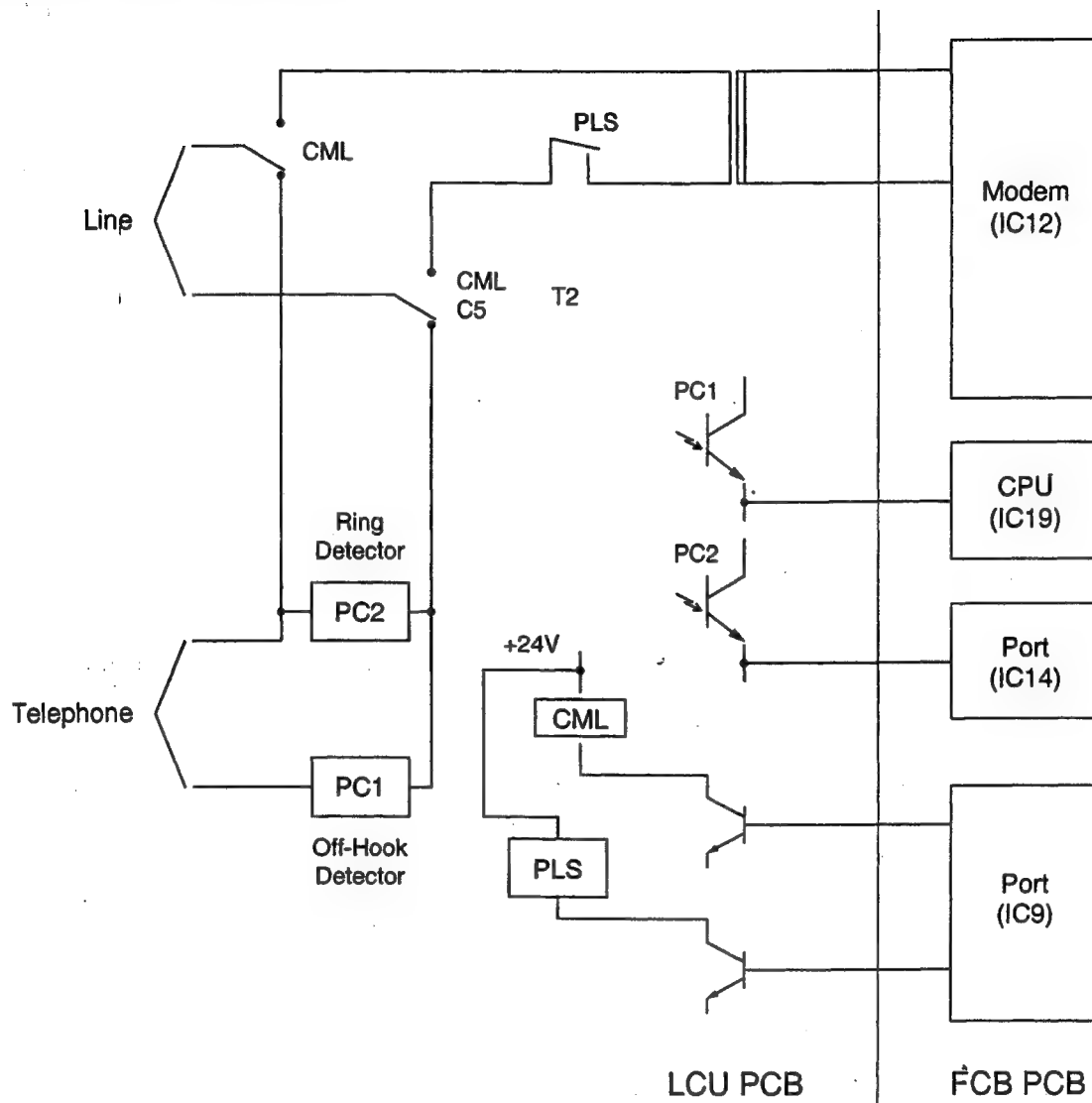
### DTMF Tone Generator (UF-770)

The circuit is incorporated in the MODEM on the FCB PC Board. The DTMF tone is conveyed to the telephone line using the same route as the facsimile signal. The DTMF tone selection is controlled by the CPU. The relay status during dialing is shown below.



## 6.2.8.2 Line Control Board (UF-880)

The following shows a block diagram of the Line Control Board.

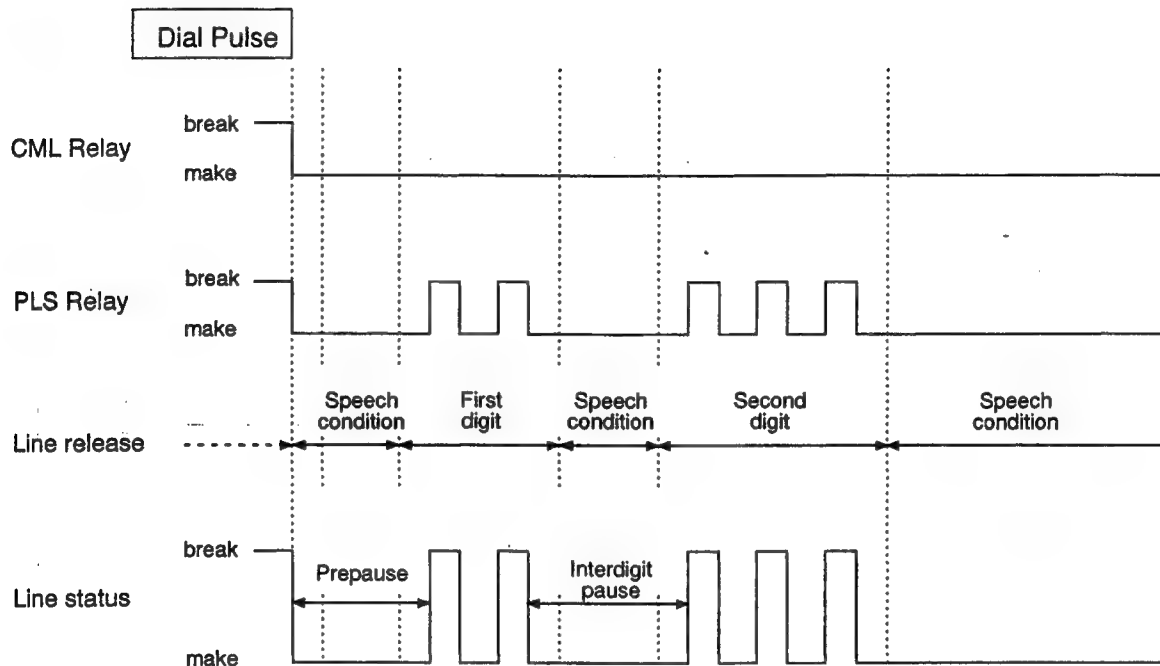


The **Ring Detector** consists of a photocoupler, PC2, and its peripheral circuits. The ringing signal is a half-wave rectifier in the Ring Detector, and transferred through the nCTON signal line to the IC13 on the MDM PC Board. The IC13 observes the signal to distinguish from signals caused by chattering.

The **Off-Hook Detector (External Telephone)** circuit consists of the photocoupler, PC1, and its peripheral circuits. When PC1 detects loop current flow, it emits a Low active output signal (nHKOF) to the IC13 which monitors it for a specified time. If the IC13 detects no change in the Low signal level, it determines that the External Telephone is Off-Hook.

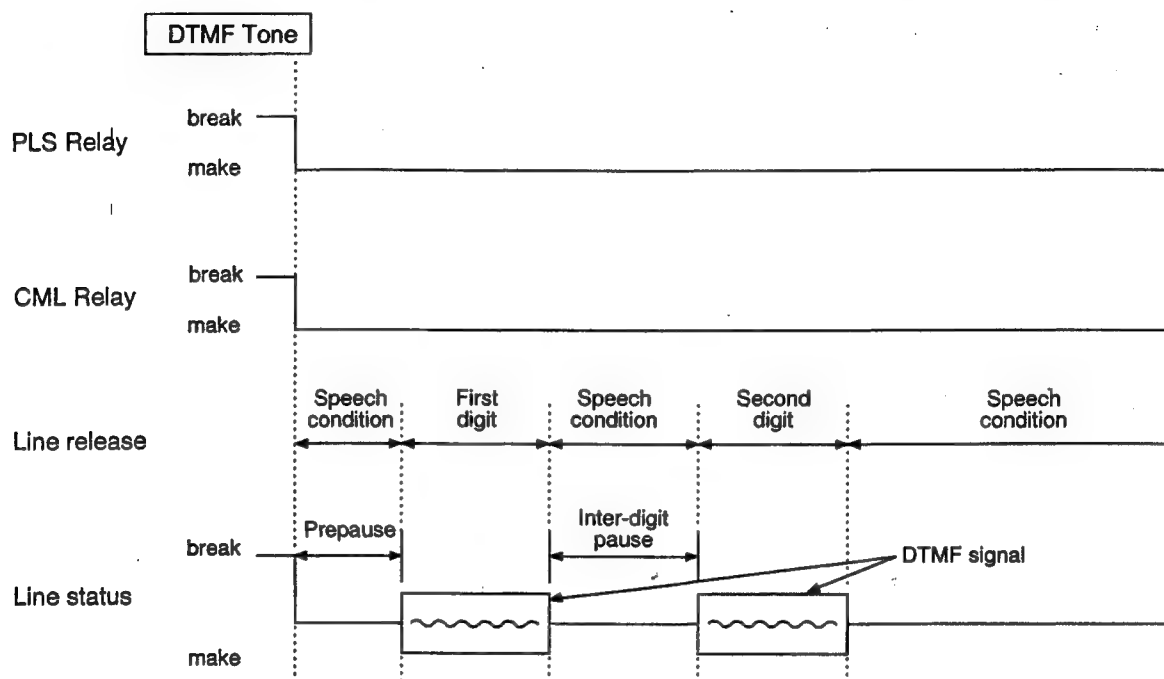
**Dial Pulse Generator (UF-880)**

The circuit consists of the CML relay, PLS relay and their peripheral circuits. This circuit generates dial pulses. The IC13 on the MDM PC Board controls all dial pulse generation sequences. It turns relay CML and PLS ON and OFF through the EPP (IC13). The status of the relays during dialing is shown below. When the absence of the terminating message is confirmed by the Off-Hook detector, the IC13 turns CML relay ON to develop loop status (DC loop). After a few seconds, the IC13 turns the PLS relay On and Off to generate dial pulses, making and breaking the loop.



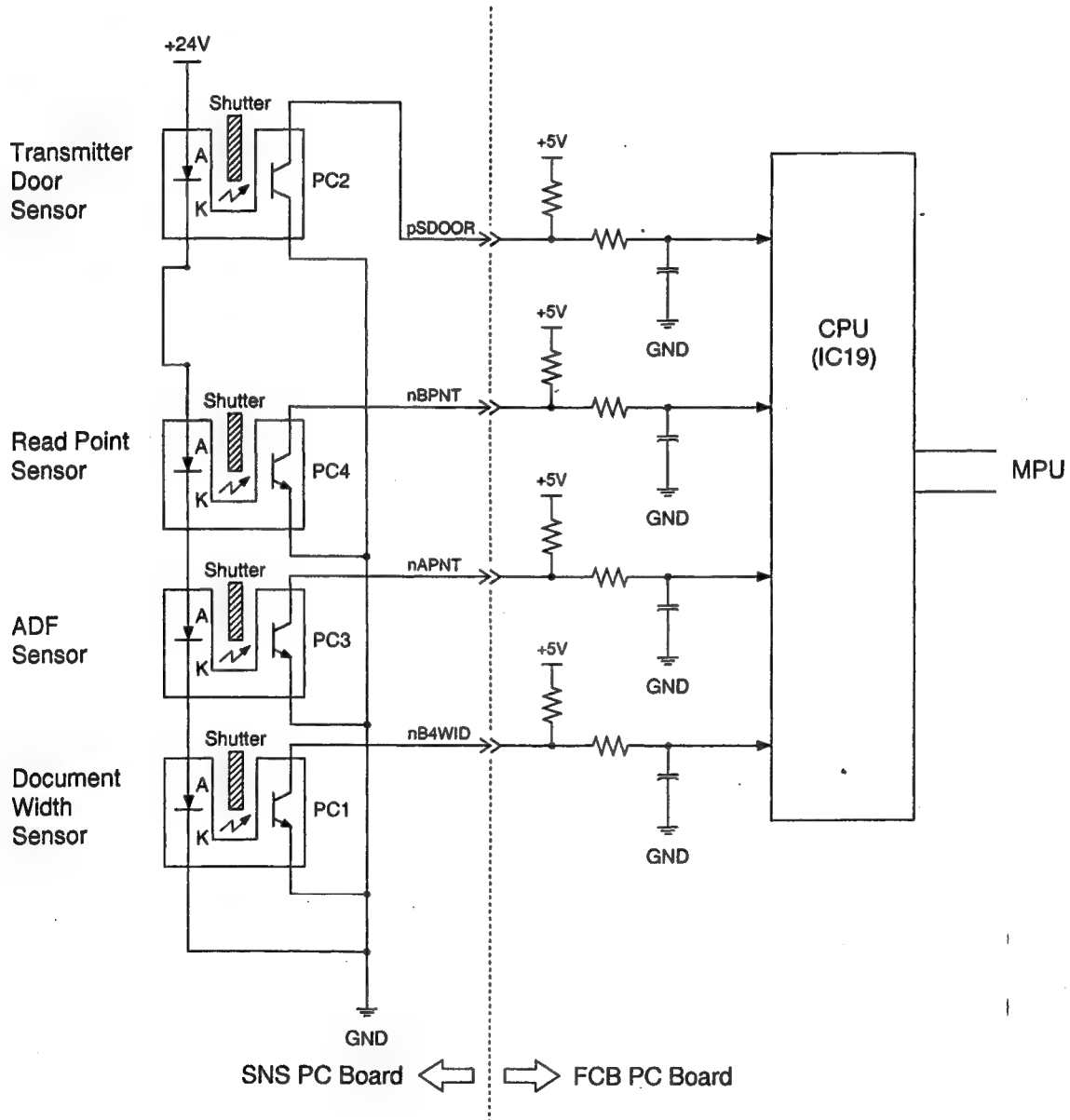
**DTMF Tone Generator (UF-880)**

The circuit is incorporated in the MODEM on the MDM PC Board. The DTMF tone is conveyed to the telephone line using the same route as the facsimile signal. The DTMF tone selection is controlled by the IC13. The relay status during dialing is shown below.



### 6.2.9 SNS PC Board

Each sensor consists of an LED and phototransistor. When documents are placed on the ADF tray or are moving, a shutter in the document sensor opens. The light from the LED turns the phototransistor "ON", and the output voltage from the sensor becomes a "Low" level. With no document on the ADF tray, the shutter interrupts the light path, and output from the sensor is kept at a "High" level. Operation of the WID Sensor and RP Sensor is exactly the same as the ADF Sensor. The Tx Door Sensor operation is similar, except that the output from the sensor is kept at a "Low" level when the door is closed and becomes "High" when the Tx Door is opened.



## 6.2.10 Control Panel

The Control Panel consists of the Display PCB and Panel PCB, which display various status information. It is normally interfaced to the main CPU. Keyed input signals are received by the Panel CPU and the data is transferred to the main CPU on the FCB PC Board.

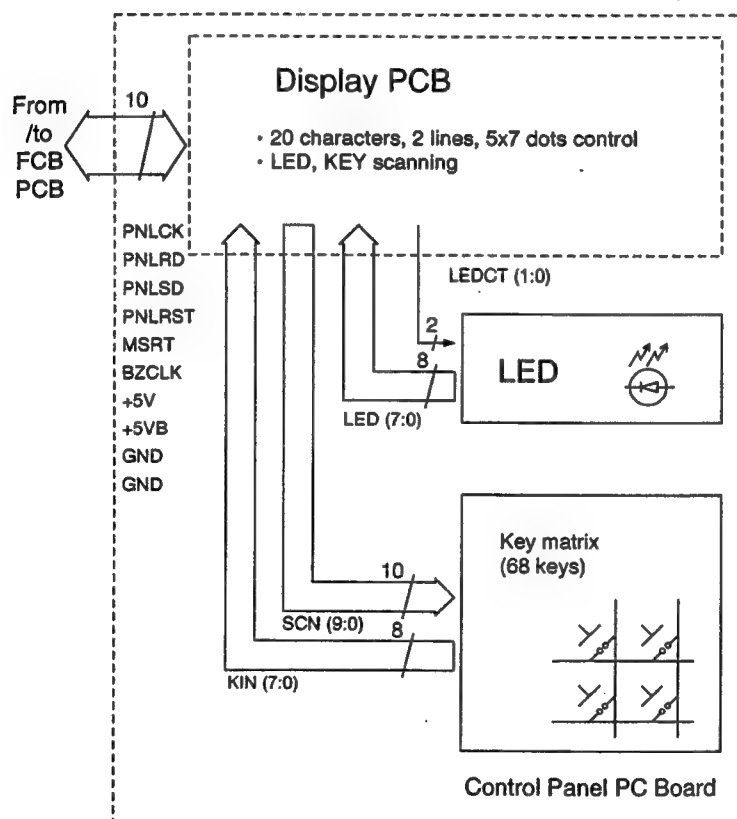
The control panel performs the following processes simultaneously :

- Key inputting
- LED, LCD display
- Data transmission / reception

Interface to main CPU

The interfacing between the main CPU and the panel CPU are all executed with commands and responses in the following two formats :

- Command / response (1 byte) + number of data + check sum.
- Command / response (1 byte) + number of data + data 1 + data 2 ..... + data n + check sum.

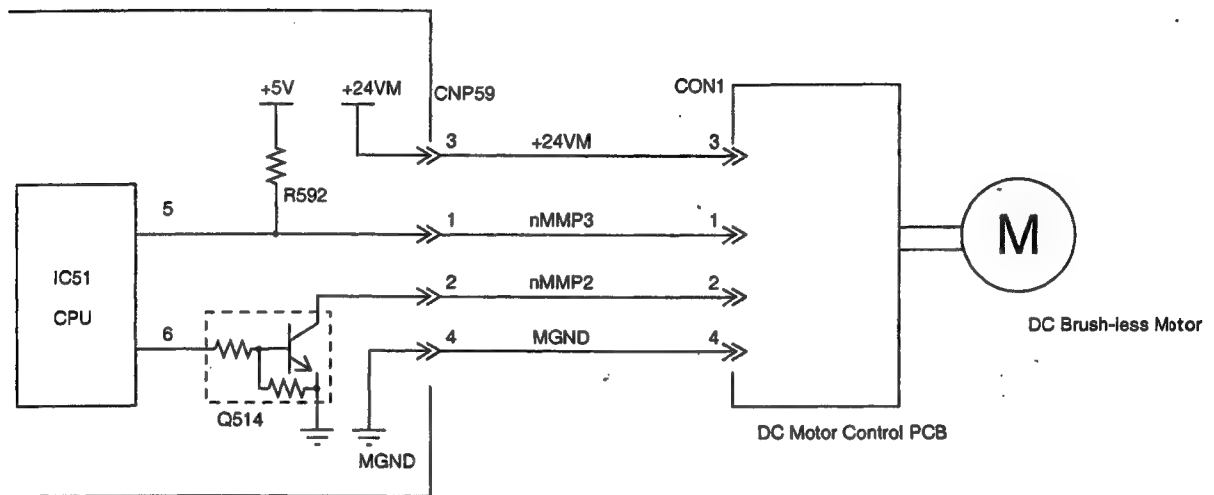


## 6.2.11 Printer Motor Driver Circuit

### Motor Drive Circuit

The Printer Motor is a Brush-less DC motor. When the nMMP2 signal level goes Low, the Printer Motor starts rotating. When the Printer Motor reaches a constant speed, the monitor feed back signal, nMMP3 goes Low and is fed back to the CPU which controls the printing process.

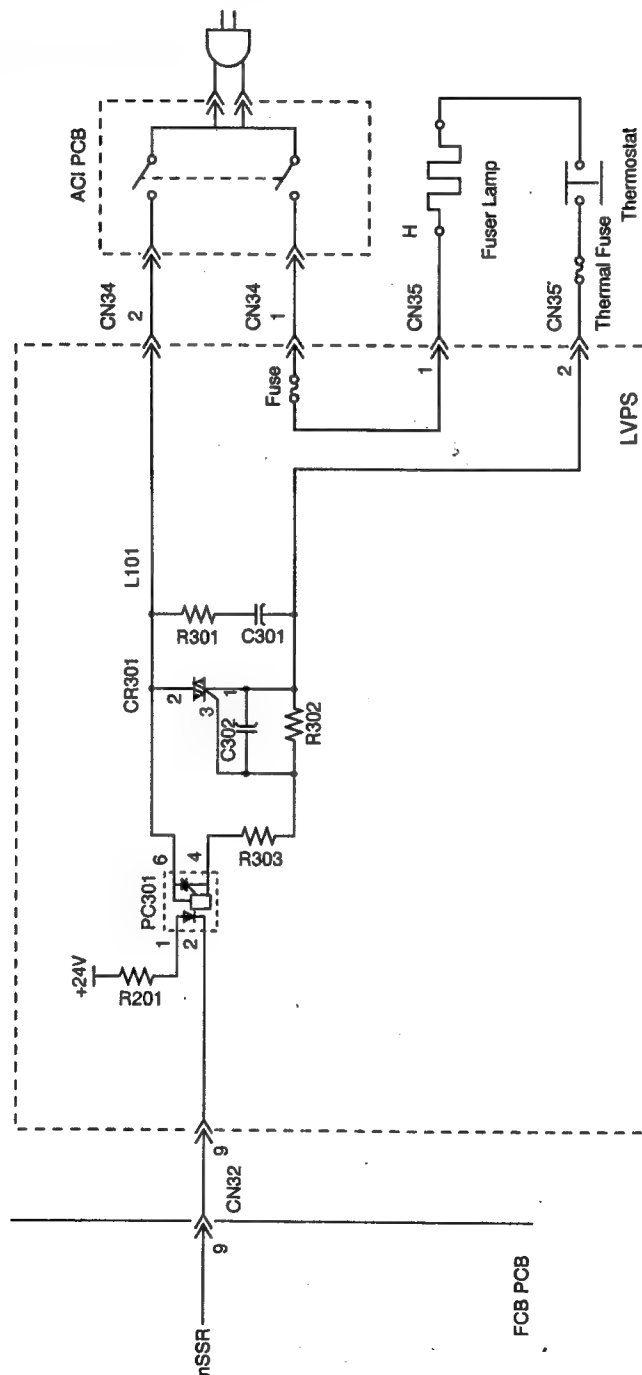
The Printer Motor is powered by a +24 VDC supply. When the interlocks are open, the +24 VDC supply is cut off and the Printer Motor stops rotating.



Laser Printer Motor Drive Circuit Block Diagram

### Fuser Lamp Drive Circuit

The Fuser Lamp is powered by 115 VAC. It is driven by the LVPS and controlled by the nSSR signal from the FCB PC Board. When the CN32, Pin 9 (nSSR) on the LVPS goes LOW, the Fuser Lamp turns ON. This lights up the PC301 LED and activates the CR301 photo-triac, and 115 VAC is sent to the Fuser Lamp. The time at which CR301 is actually activated depends on the 115 VAC sine wave. When the cross-voltage for Pin 6 and Pin 4 of PC301 is other than 0 Volts (sine wave exceeds 0 volts), PC301 inhibits the activation of the triac and turns ON the Fuser Lamp.



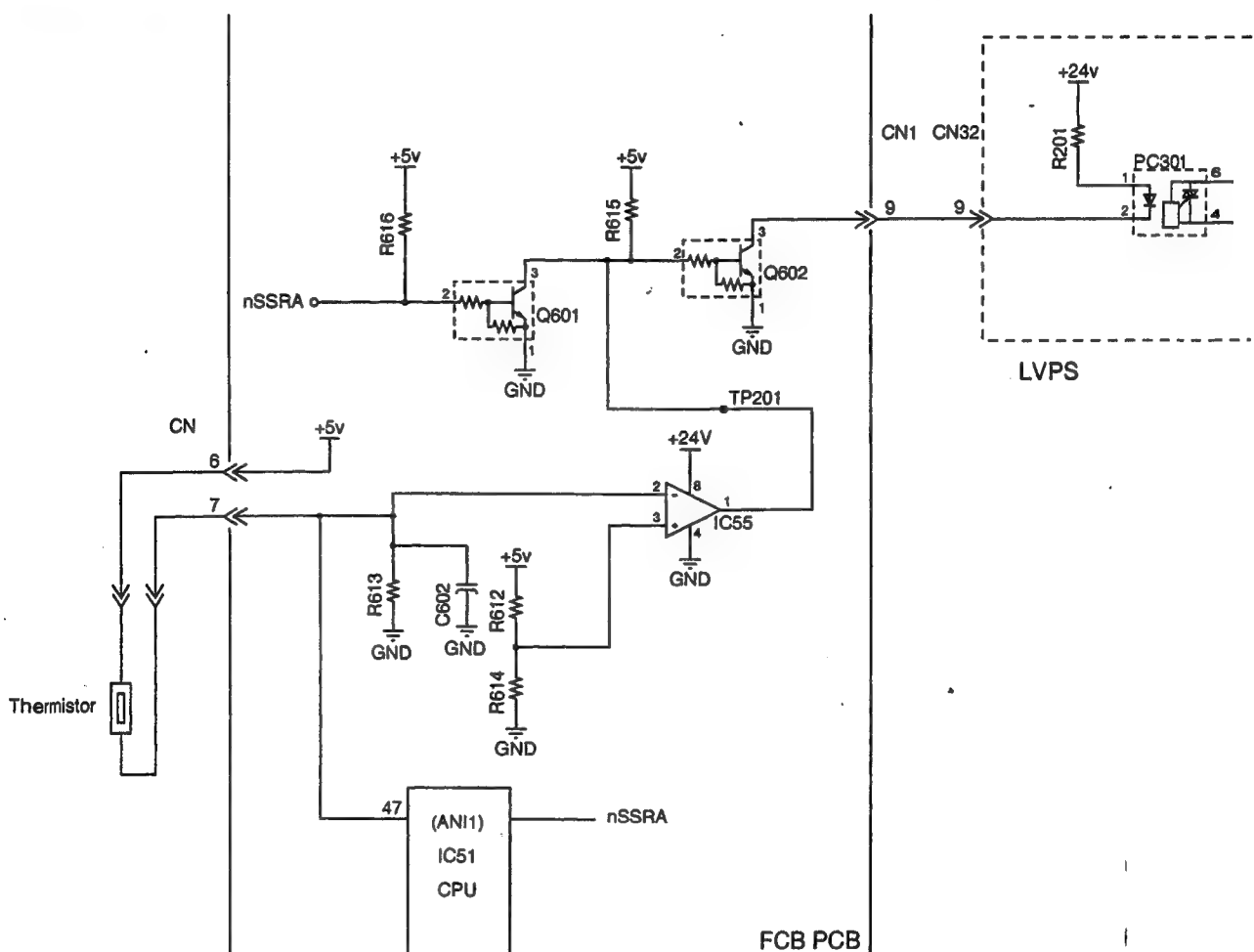
Fuser Lamp Drive Circuit Diagram



### Fuser Temperature Control Circuit

The fuser temperature is controlled by IC51 on the FCB PC Board, which contains A/D (Analog/Digital) converters ANI0 and ANI7. The Fuser Temperature Control Circuit uses A/D converter, ANI1. When the PC301 drive current is transmitted from the FCB PC Board to the LVPS, the Fuser Lamp turns ON. IC55 is a converter with open output at pins 1 and 7 and is used as an abnormal temperature detection circuit. IC55, pin 1, has a high impedance when Q602 is activated, turning ON the Fuser Lamp. An abnormal temperature is detected when the VTH voltage level becomes higher than V+, forcing IC55, pin 1 Low and deactivating Q602.

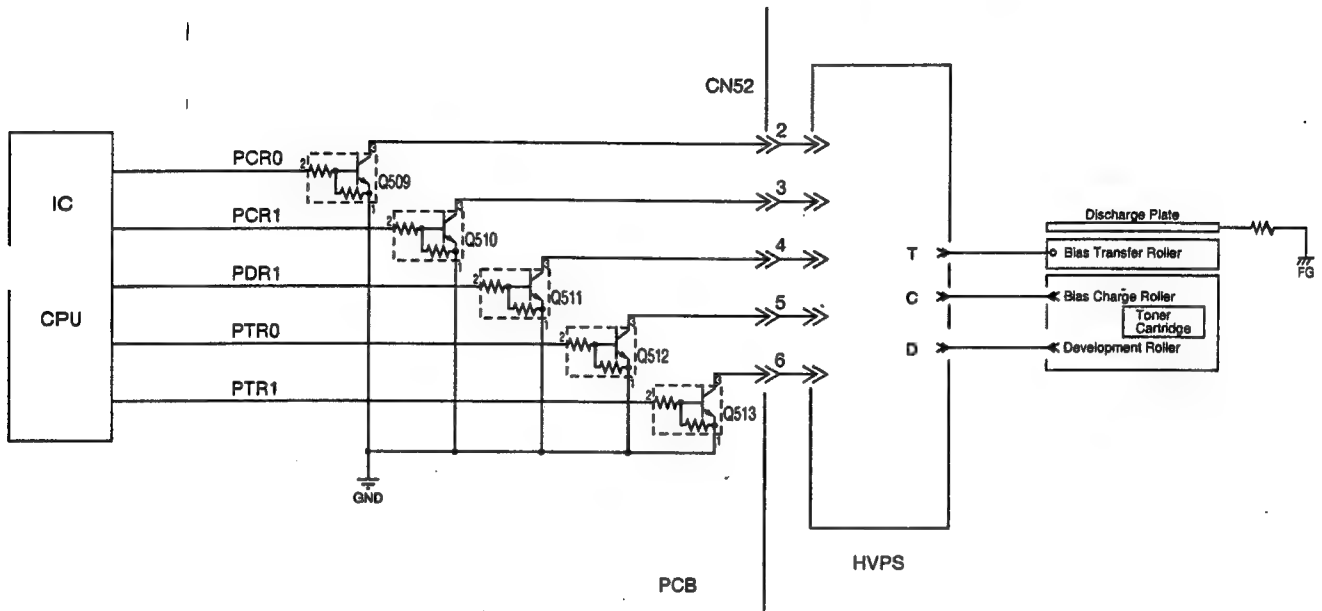
Abnormally low and high temperatures, as well as Thermistor release status, are detected by IC51 (CPU) programming.



Fuser Temperature Control Circuit Diagram

### High Voltage Drive Circuit (Charging, Development and Transfer)

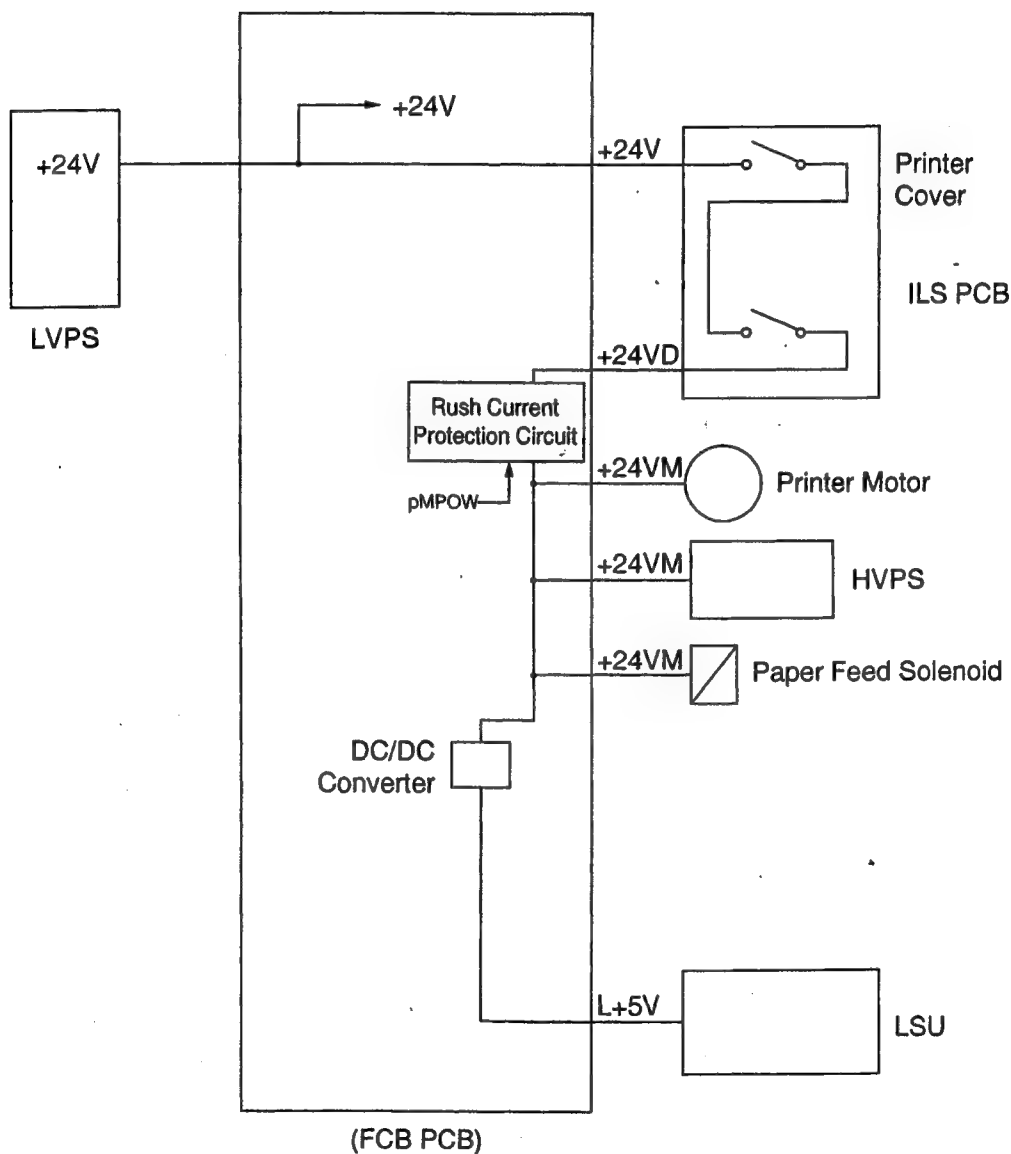
High Voltage is provided through a DC to DC converter, which changes the +24 VDC supply voltage to -610 VDC, and output approximately 0.72 KVAC (Steady current : 450  $\mu$ A) for the Charging Block. The Developer Circuit converts the +24 VDC to between -500 VDC for the development bias, and outputs 1,500 VAC<sub>(p-p)</sub> at a frequency of 1.7 kHz to charge the toner. The Transfer Circuit changes the +24 VDC supply voltage to approximately +600 VDC (steady current: 3.0  $\mu$ A/-800 VDC steady voltage).



High Voltage Drive Circuit

### 6.2.12 Interlock Safety Circuit

This safety circuit turns OFF the +24 VDC supply voltages when the Printer Cover is opened. When the Printer Cover is opened, the microswitch(es) on the ILS PC Board are de-actuated, turning OFF +24 VDC to the Printer Drive Circuit, the HVPS, and the Paper Feed Solenoid Circuits, turning OFF the +5 VDC supply voltage for the Laser Driver Circuit on the Laser Unit.



Interlock Safety Circuit Block Diagram

### 6.2.13 LSU Control Circuit

The laser control signals are described below.

#### nLDON

The LSU is activated when this output signal is LOW. If an error occurs, the nLDON output signal level goes High and the LSU is deactivated.

#### nVIDEO

This is the actual Data Signal. The Laser is ON when the nVIDEO output signal level is LOW.

#### nHSYNC

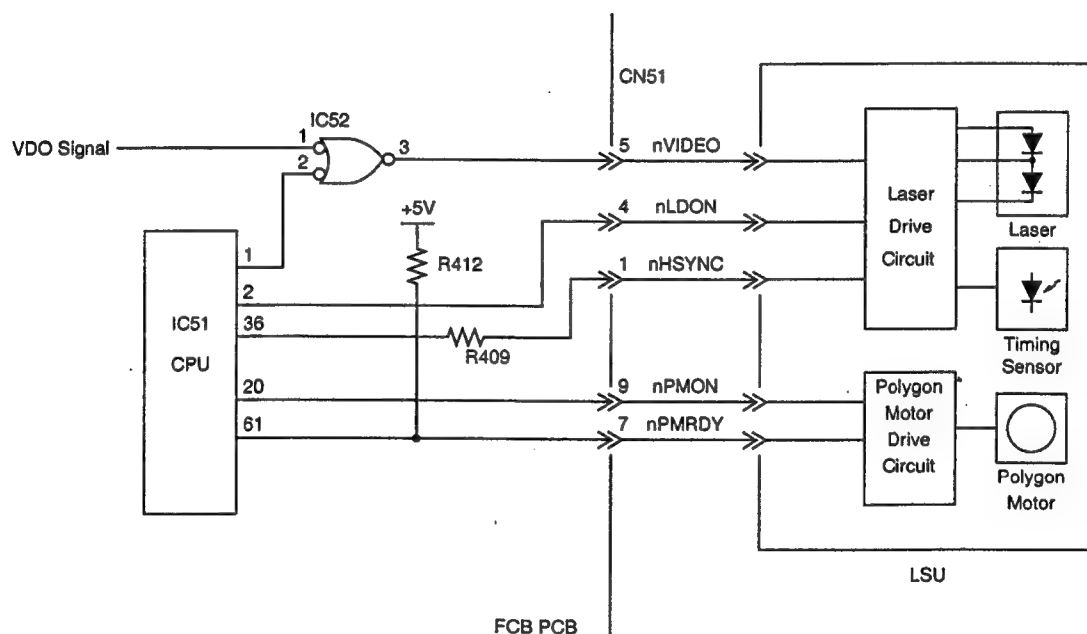
This horizontal synchronization signal transmitted from the Beam Detection Sensor sets the horizontal position of the laser beam as it crosses the OPC Drum.

#### nPMON

This is the Polygon Motor Control Signal. The Polygon Motor rotates when the nPMON output signal level is LOW.

#### nPMRDY

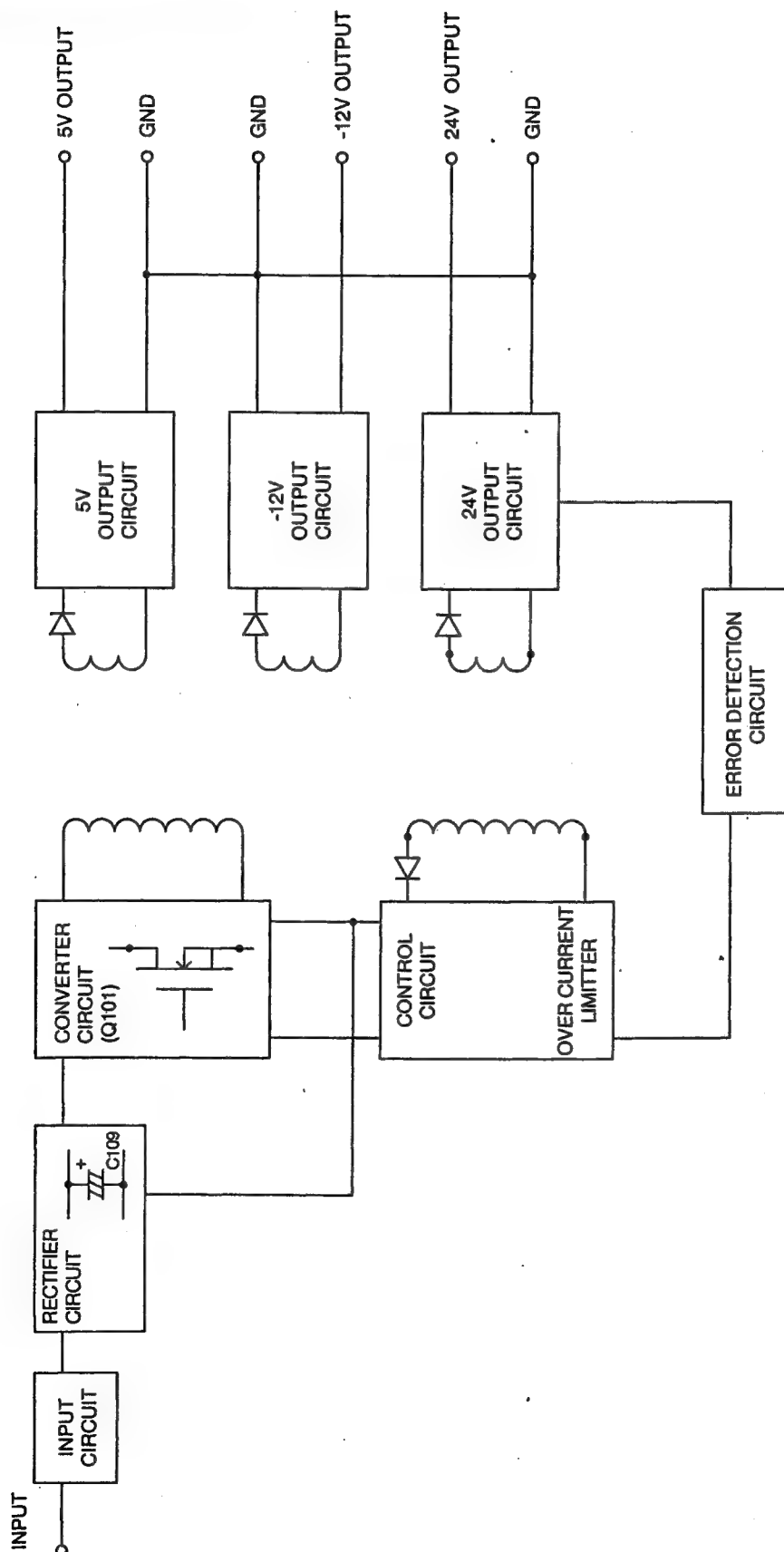
A Phased-Lock Loop (PLL) circuit keeps the Polygon Motor speed constant at 5,000 rpm when the nPMRDY is at a Low output signal level.



Laser Unit Control Circuit Block Diagram

## 6.2.14 Power Supply Unit (LVPS)

### Block Diagram of ETXDN036A4C



## ETXDN036A4C (115V)

### Input Filter Circuit

AC line voltage travels to the rectifying circuit through the line filter. The line filter eliminates RFI noise which may otherwise pass to the AC line from the power supply unit. It also protects the power supply unit from transient noise which may pass into the unit from the AC line.

### Rectifying and Smoothing Circuit

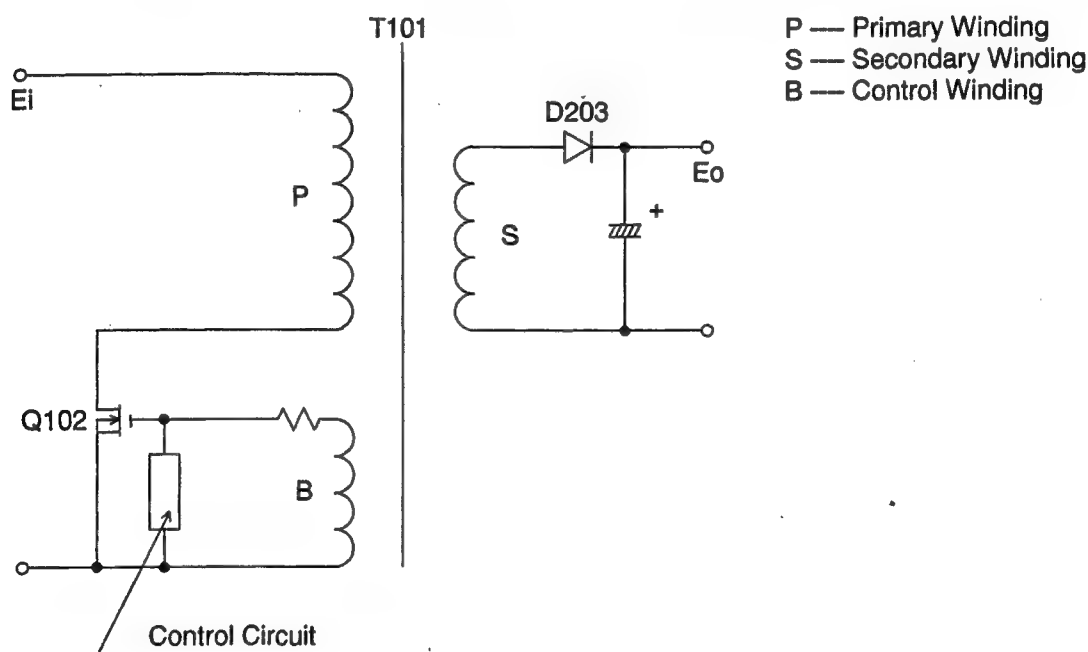
As soon as power is applied to the Power Supply Unit, AC line voltage is rectified by D101 and is smoothed by capacitor C107. The protection circuit at the time of startup is controlled by an IC (MC101) and resistors R107, R108 and R109.

### Inrush Current Protection Circuit

When the capacitor C107 is not charged by the AC input, an inrush current, or current surge, appears at the input side. Power thermistor TH101 limits the inrush current.

### Converter Circuit

A hybrid IC (MC101), in combination with transformer T1, form a switching power supply circuit using the RCC (Ring Choke Converter) system.



### Main Switching Circuit

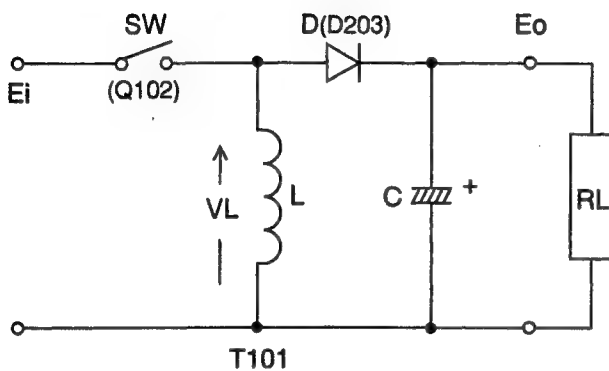
In the above circuit, when the main switching transistor, Q102, is turned On, input voltage, Ei, is supplied to the primary winding of transformer T101. However, no current will flow through diode D203 of the secondary side, due to reverse polarity of the secondary winding causing no current flow within T1. But the transformer charges with energy. When Q102 is turned Off, the supply voltage to the primary winding shuts off and the windings of T101 change polarity, allowing D203 to conduct, releasing the energy accumulated in T101 to the circuit. When the energy is discharged through D203, Q102 turns on, once again reversing the polarity on T101 windings, creating a self-oscillation circuit.

The value of output voltage is

$$E_0 = d / (1-d) * E_i$$

$$d = T_{on} / T_s$$

Equivalent circuit model for the RCC.



$T_{on}$  : ON TIME OF Q102

$T_s$  : PERIOD OF OSCILLATION

In the equivalent circuit ; When SW is on, current flows  
SW  $\rightarrow$  L

When SW is off, current flows

L  $\rightarrow$  D  $\rightarrow$  RL

The value of inductance increase current between on period. ( $d * T_s$ )

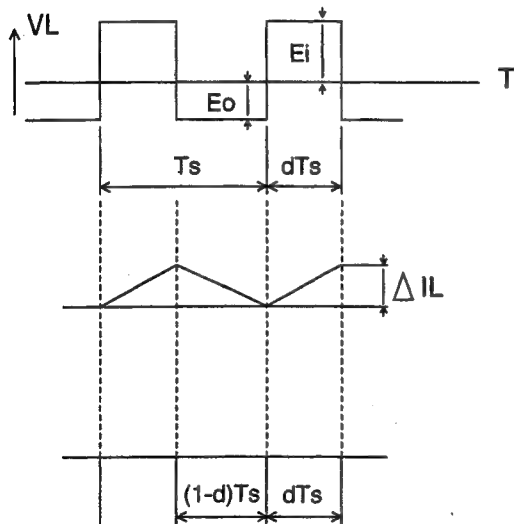
$$I_L = E_i / L * d * T_s \dots \dots \dots (1)$$

The value of inductance decrease current between off period (  $(1-d) * T_s$ )

$$I_L = E_0 / L (1-d) * T_s \dots \dots \dots (2)$$

From equation (1) and (2),

$$E_0 = d / (1-d) * E_i$$



In the actual circuit, the fixed output voltages are obtained by changing the winding ratio of transformer T101. In this converter circuit, the output voltages are stabilized by controlling the duty cycle of the ON and OFF timing of the transistor. In this power supply, the bias winding is built into the transformer. The power supply has three outputs, +24 VDC, -12 VDC and +5 VDC. The +24 VDC output is protected by the Error Detection Circuit, and the +5 VDC and -12 VDC outputs are protected by the circuitry inside of the voltage regulator IC.

### **Control Circuit and Error Detection Circuit**

The control circuit amplifies the output of the duty cycle according to the error voltage detected by the Error Detection Circuit, and drives the main transistor Q102. The method used to change the duty cycle is to change the ON time period. When the output voltage of the +24 VDC circuit rises, the current of photocoupler PC101 increases, the output pulse width of the control circuit decreases and the ON time period of Q102 decreases. This control circuit decides the minimum OFF time period by itself. When the oscillation frequency becomes higher and the OFF time period becomes minimum, the OFF time period remains unchanged and only the ON time period decreases. This way, there is a upper limit of the oscillation frequency and the duty cycle is expanded.

### **Over Current Limiter**

The +24 VDC output is limited by Ton MAX Limiter (ON time period of transistor Q102) which is part of the control circuit. The +5 VDC and -12 VDC outputs have over current limiters provided inside the voltage regulator.



**Notes**

## Chapter 7

### Exploded View & Parts List

Country Code	Country	Country Code	Country
AA	Austria	AQ	Ireland
AB	U.K.	AR	Belgium
AD	Denmark	AS	Sweden
AE	Taiwan	AT	Turkey
AF	Finland	AU	Puerto Rico
AG	German	AV	France
AH	The Netherlands	AW	New Zealand
EE	Italy	YC	Universal 200V Version
AJ	Spain	YG	Greece
AK	Hong Kong	YJ	Czecho
AL	Australia	YM	Malaysia
AM	Switzerland	YT	Thailand
AN	Norway	YW	South Africa
AP	Portugal	YX	Singapore

(This parts list is provisional issue for each countries. Please contact local Panasonic company to get correct part number.)

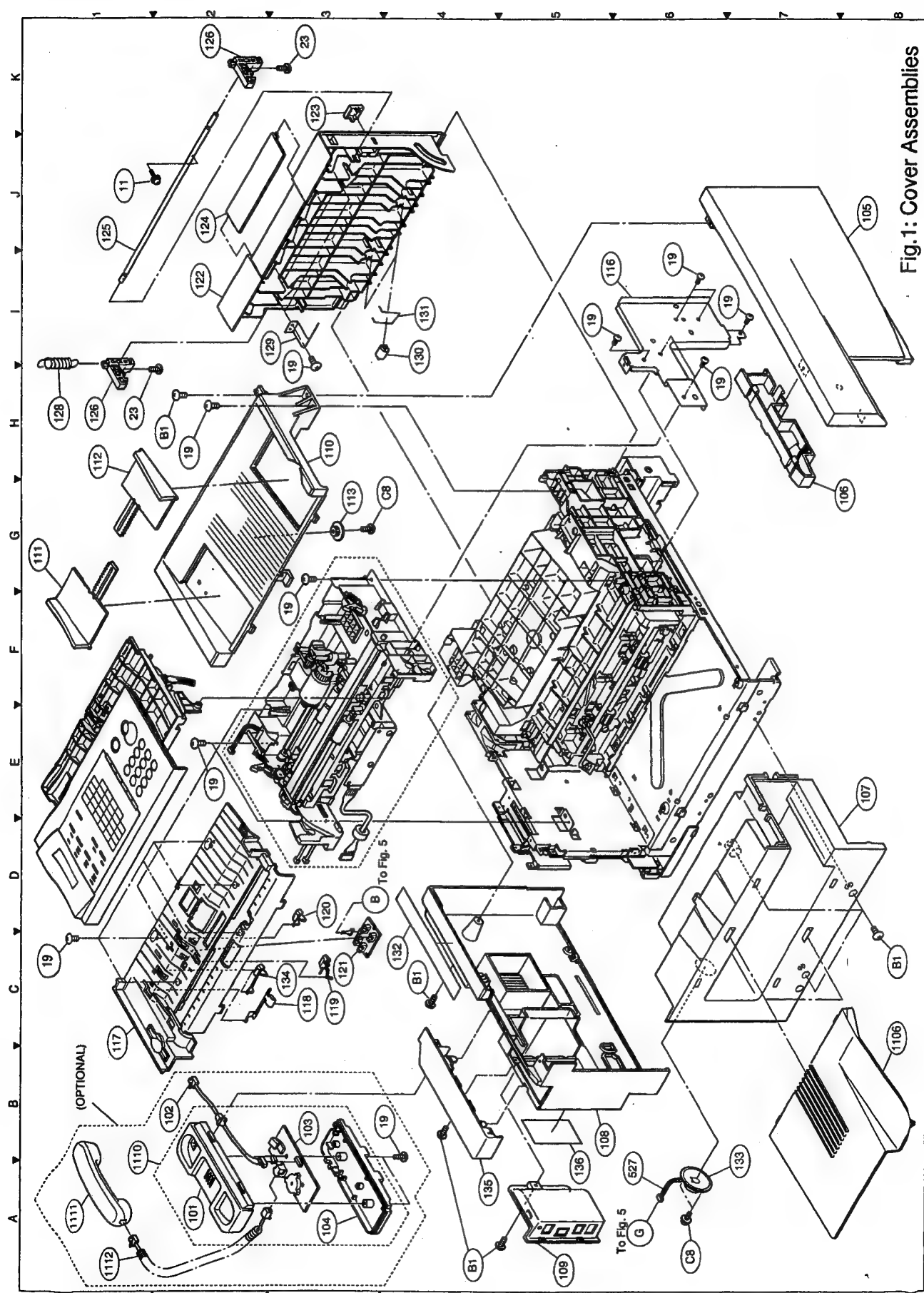
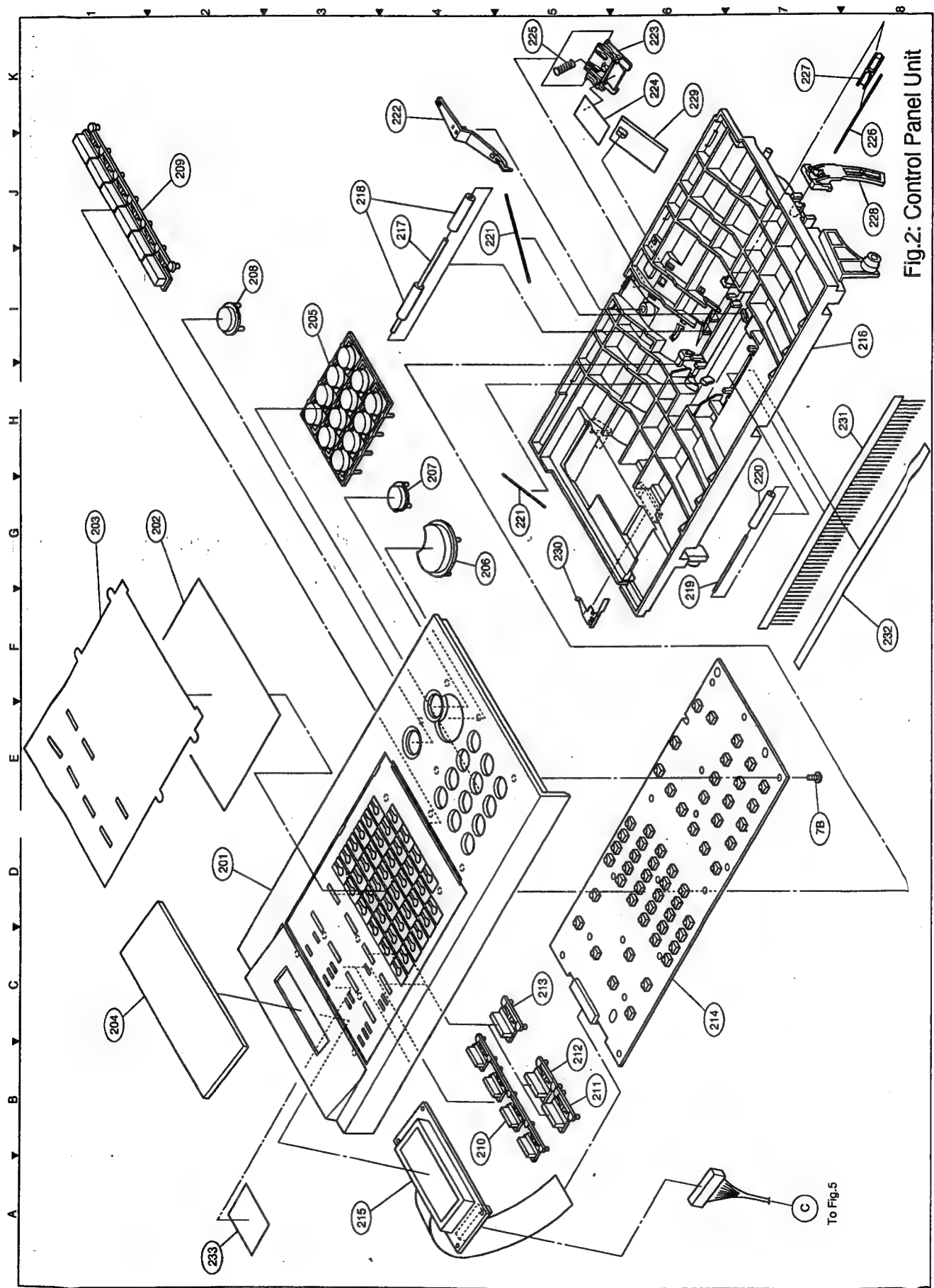
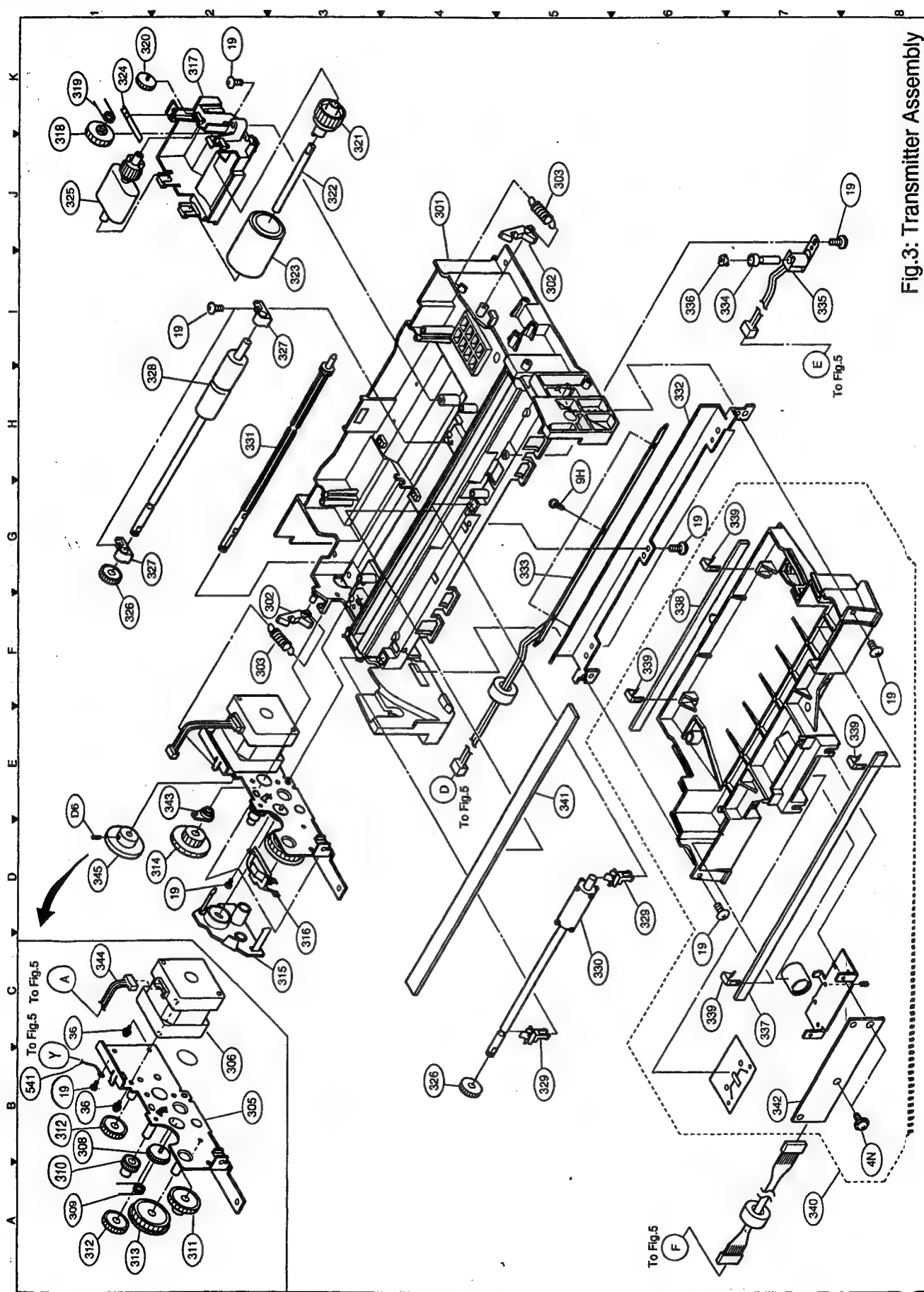


Fig. 1: Cover Assemblies





**Fig.3: Transmitter Assembly**

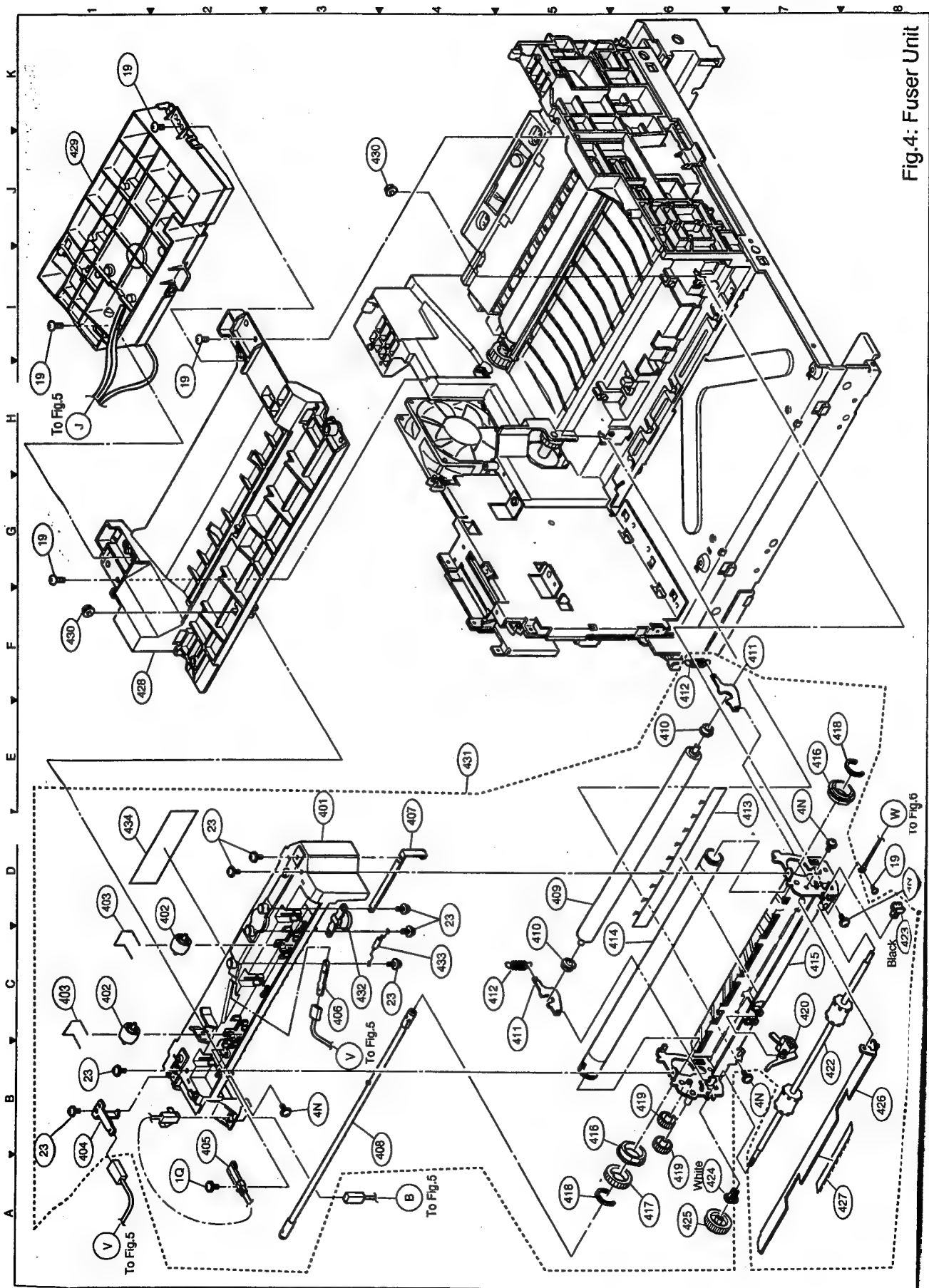


Fig.4: Fuser Unit

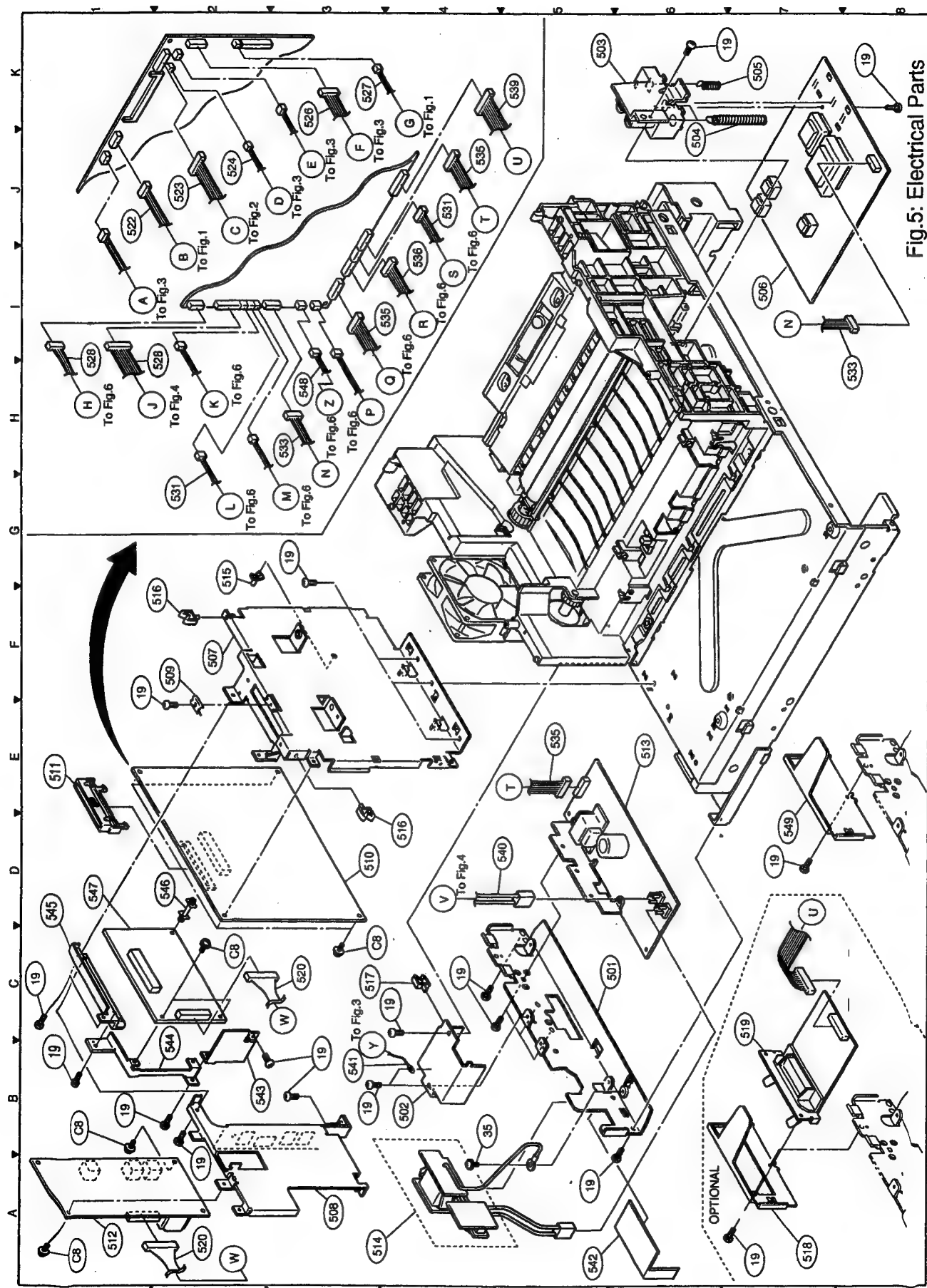


Fig.5: Electrical Parts

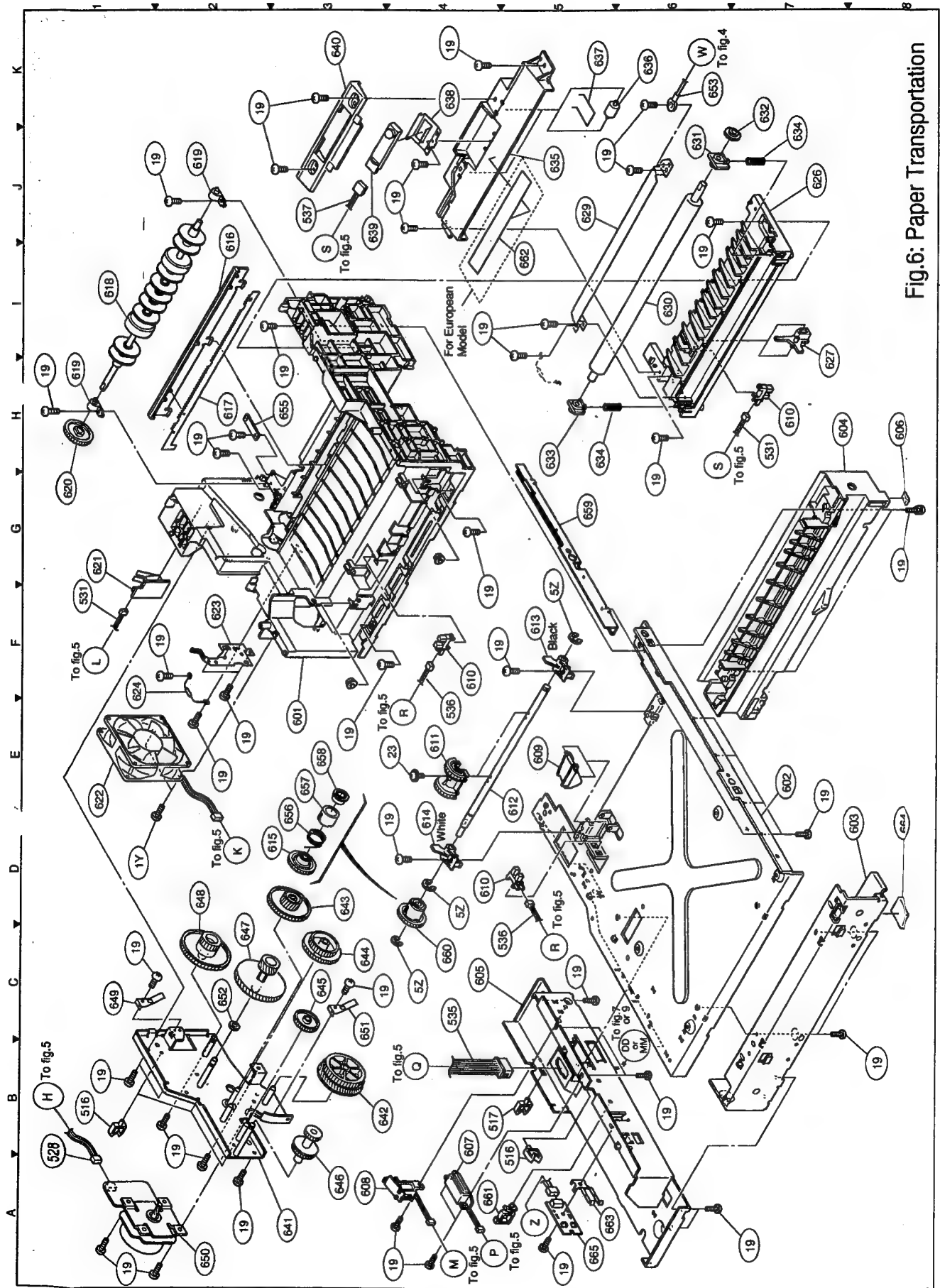


Fig.6: Paper Transportation



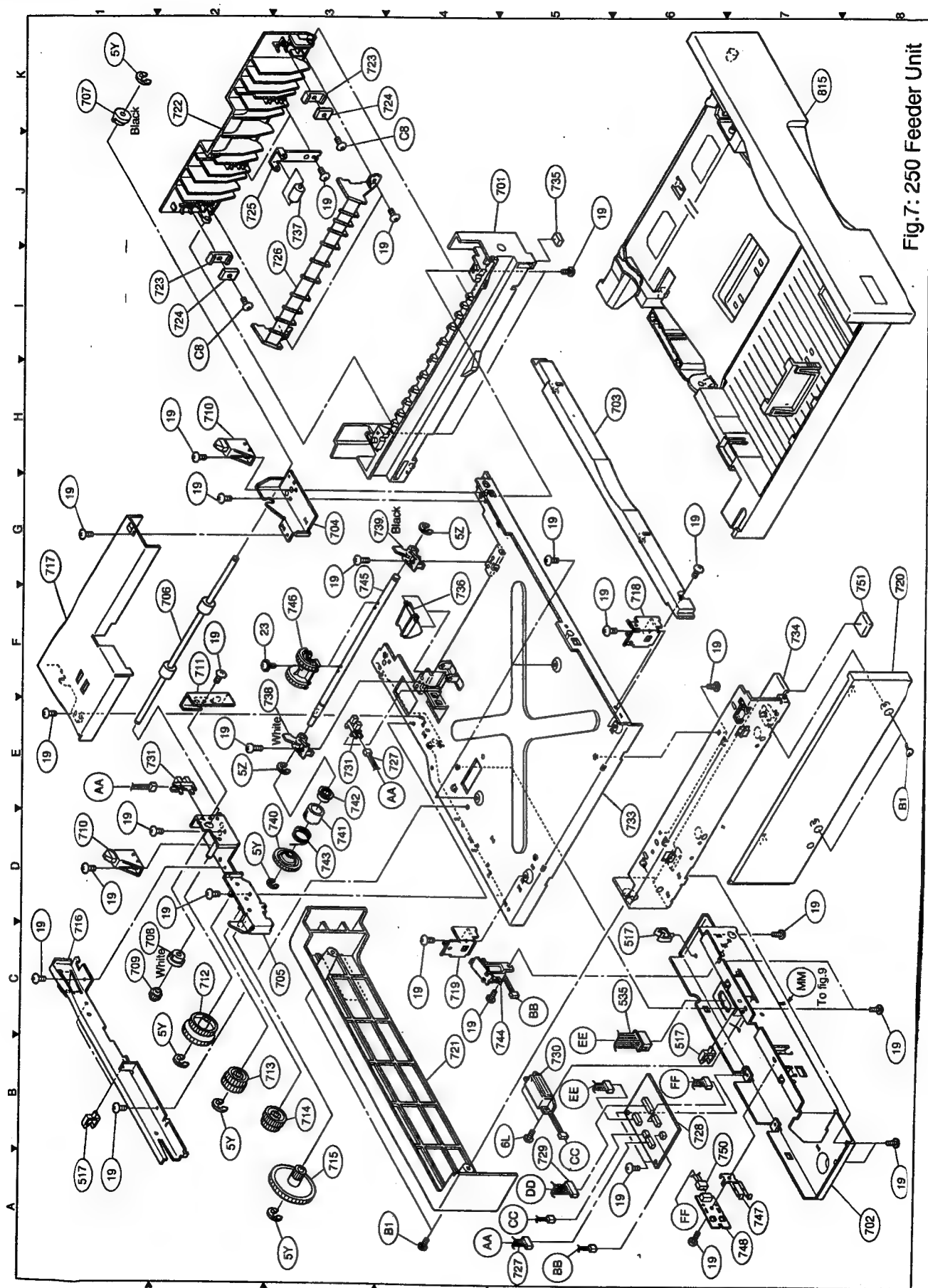


Fig. 7: 250 Feeder Unit

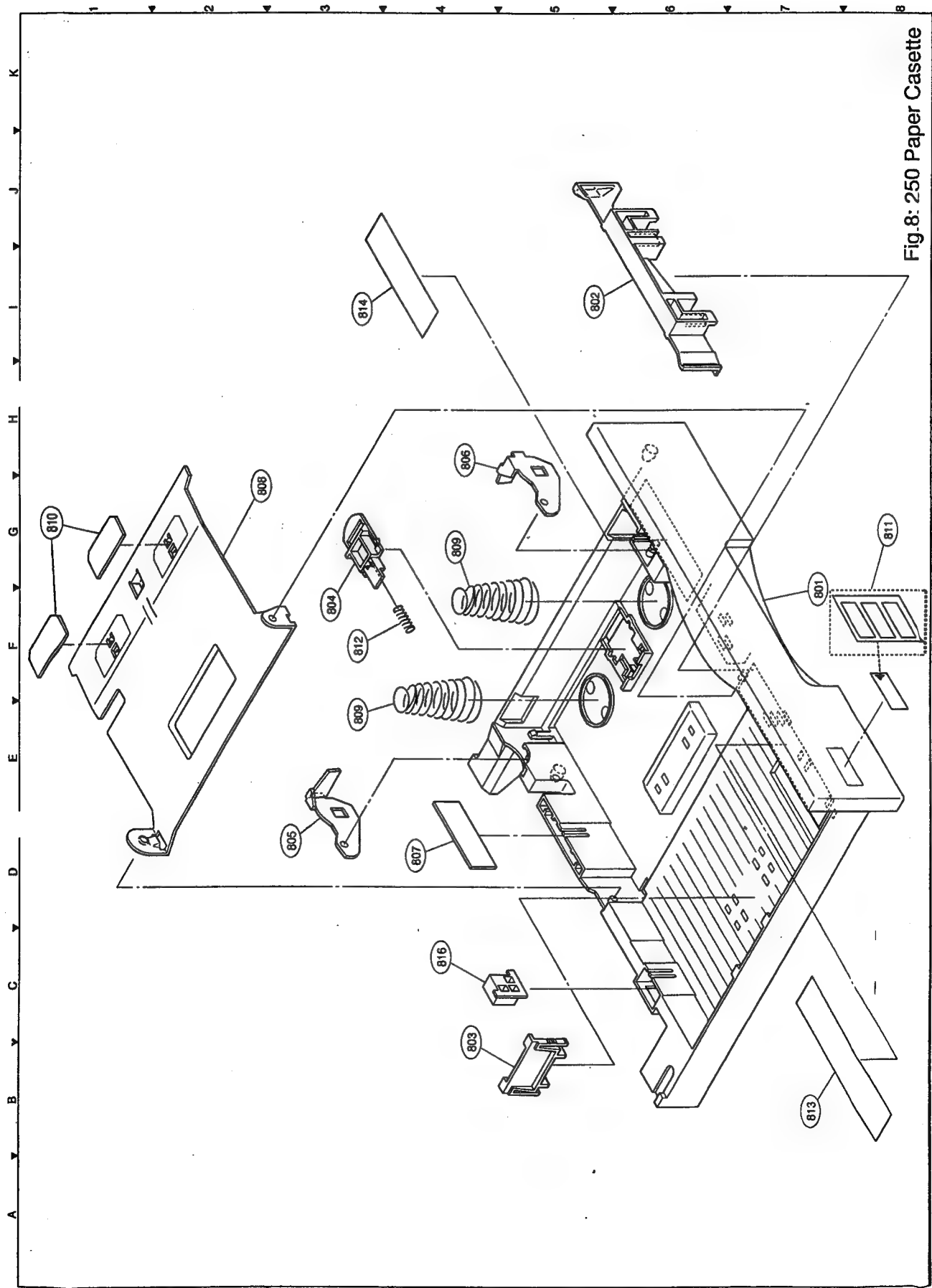
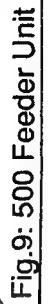


Fig. 8: 250 Paper Cassette



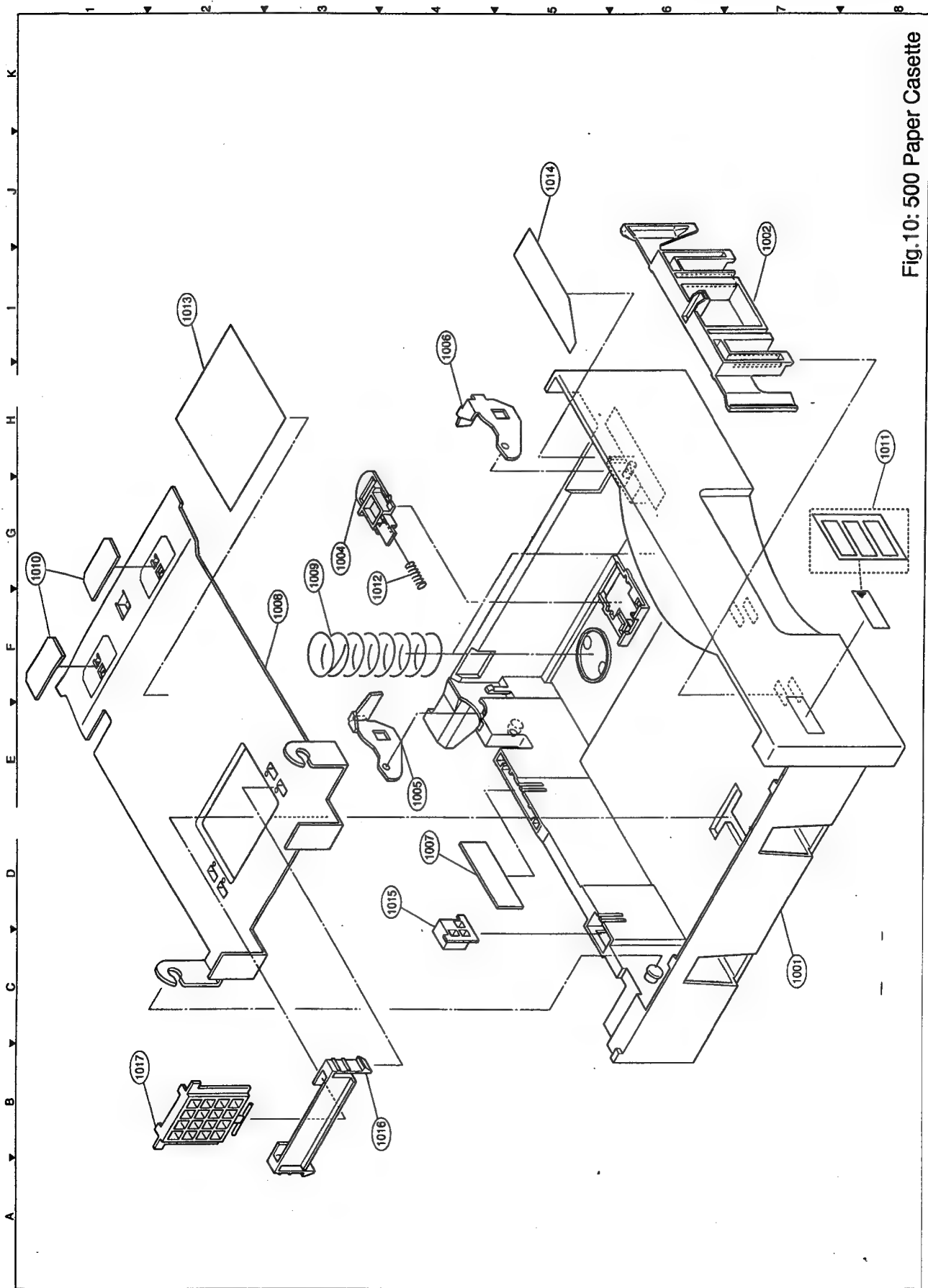
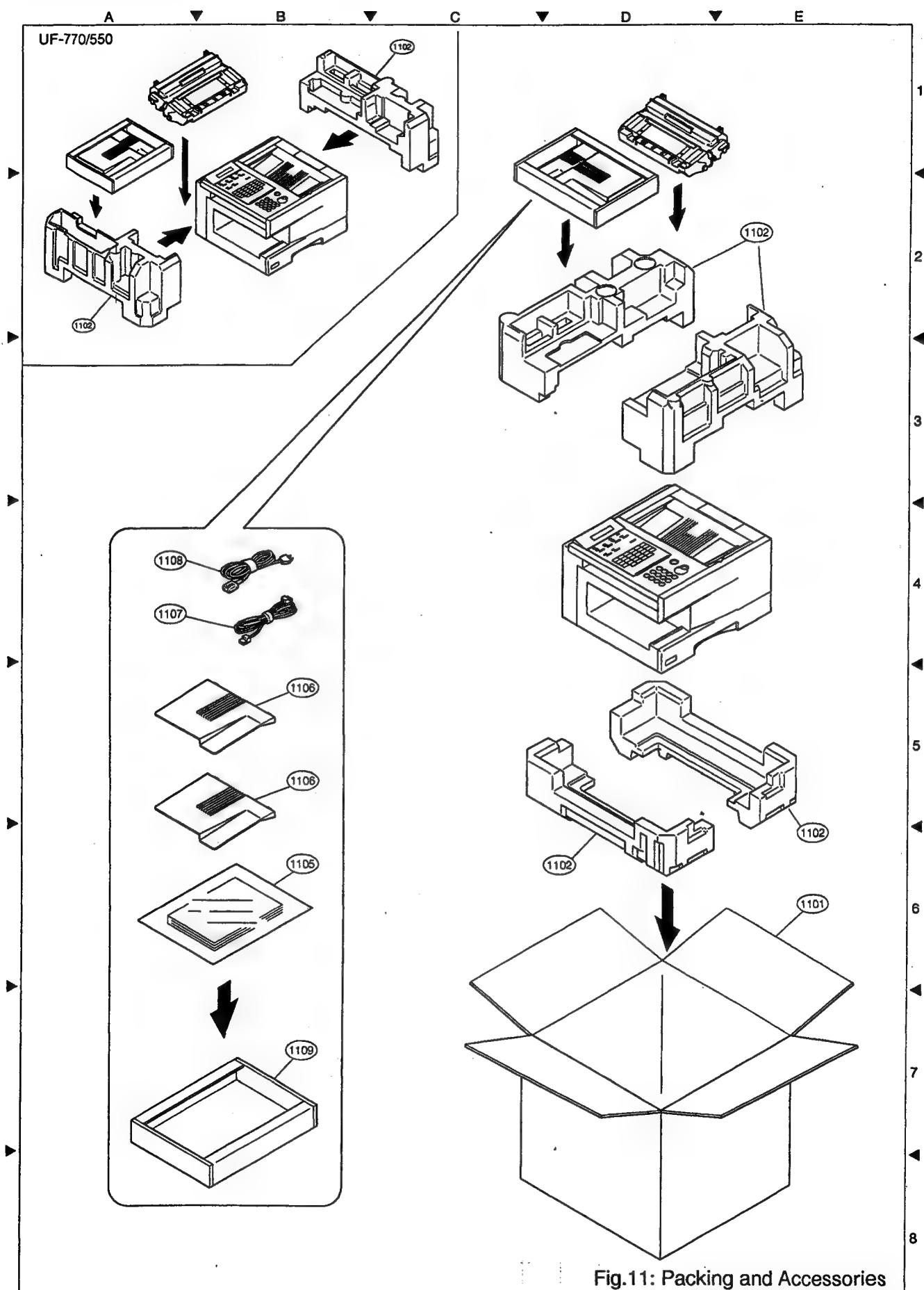


Fig.10: 500 Paper Cassette



### 7.1 Cover Assemblies (1/2)

[illegible]

## Cover Assemblies (2/2)

[illegible]

## 7.2 Control Panel Unit (1/2)

## Exploded View & Parts List

Ref No	Part No.	Part Name	880												770												Location										
			AB	AG	AK	AL	AW	YX	YM	AU	AA	AB	AD	AE	AF	AG	AH	EE	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AV	AW	YC	YG	YW	YX	YJ	YM	YT
201	DZMA000197	Cover, Panel							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2D
202	DZNA000230	Sheet, One-Touch	1						1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2G
202	DZNA000252	Sheet, One-Touch																																			2G
203	DZNA000231	Cover, Directory Sheet							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1G
203	DZNA000248	Cover, Directory Sheet	1							1																											1G
203	DZNA000341	Cover, Directory Sheet									1																										1G
203	DZNA000342	Cover, Directory Sheet										1																									1G
203	DZNA000343	Cover, Directory Sheet											1																								1G
203	DZNA000249	Cover, Directory Sheet												1																							1G
203	DZNA000346	Cover, Directory Sheet															1																				1G
203	DZNA000347	Cover, Directory Sheet																1																			1G
203	DZNA000344	Cover, Directory Sheet																				1															1G
203	DZNA000348	Cover, Directory Sheet																					1														1G
203	DZNA000250	Cover, Directory Sheet																							1												1G
203	DZNA000251	Cover, Directory Sheet																																			1G
204	DZNA000196	Window, LCD	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1C
205	DZKB000145	Ten Key							1																												3I
205	DZKB000151	Ten Key	1	1	1	1	1	1																													3I
205	DZKB000192	Ten Key																																			3I
205	DZKB000196	Ten Key																																			3I
205	DZKB000172	Ten Key																																			3I
205	DZKB000173	Ten Key																																			3I
205	DZKB000206	Ten Key																																			3I
205	DZKB000209	Ten Key																																			3I
205	DZKB000174	Ten Key																																			3I
205	DZKB000175	Ten Key																																			3I
206	DZKB000146	Start Key	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4G
206	DZKB000193	Start Key																																			4G
206	DZKB000176	Start Key																																			4G
206	DZKB000207	Start Key																																			4G
206	DZKB000210	Start Key																																			4G
206	DZKB000200	Start Key																																			4G
207	DZKB000147	Copy Key	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4G
207	DZKB000198	Copy Key																																			4G
207	DZKB000194	Copy Key																																			4G
207	DZKB000197	Copy Key																																			4G
207	DZKB000177	Copy Key																																			4G
207	DZKB000178	Copy Key																																			4G
207	DZKB000211	Copy Key																																			4G
207	DZKB000199	Copy Key																																			4G
208	DZKB000148	Stop Key	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2I
208	DZKB000195	Stop Key																																			2I
208	DZKB000208	Stop Key																																			2I
208	DZKB000150	Stop Key																																			2I



## Control Panel Unit (2/2)

Ref No	Part No.	Part Name	880										770										Location																														
			AB	AG	AK	AL	AW	YX	YM	AU	AA	AB	AD	AE	AF	AG	AH	EE	AJ	AK	AL	AM		AN	AP	AQ	AR	AS	AT	AV	AW	YC	YG	YV	YX	YJ	YM	YT															
209	DZKB000149	Button, A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2J				
210	DZKB000150	Button, B	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4B		
211	DZKB000134	Button, C-A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5B		
212	DZKB000135	Button, C-B	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5B		
213	DZKB000136	Button, C-C	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5C		
214	DZYNA1543A	PC Board, Panel	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6C		
215	DZDA000008	PC Board, Display	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3A		
216	DZJF000154	Chassis, Control Panel	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8I		
217	DZLG000002	Shaft, Pinch Roller	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4J		
218	DZLA000092	Roller, Pinch	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3J		
219	DZKG000018	Shaft, Roller 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6F		
220	DZLA000058	Roller 2, Feed	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7G		
221	DZKR000008	Spring, Wire, Pinch Roller	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4J, 5G	
222	DZKA000010	Lever, Adjust	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4K	
223	DZJM000014	Cover, Pre-Feed	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6K	
224	DZJM000072	Film, Pre-Feed	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6K	
225	DZKN000076	Spring, Coil, Pre-Feed Cover	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5K	
226	DZKR000004	Spring, Pressure Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8J	
227	DZJM000013	Plate, Pressure	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7K	
228	DZKK000023	Latch, Stopper	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8J	
229	DZJN000016	Rubber, Separation	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	6K	
230	DZKP000063	Earth Plate, B	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5G	
231	DZGT000007	Brush, Antistatic	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8H
232	DZJQ000003	Seal, White	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8F
233	DZHA000071	Film, Antistatic	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1</				

### 7.3 Transmitter Assembly (1/2)

7-17

## Transmitter Assembly (2/2)

Ref No	Part No.	Part Name	880																770																Location			
			AB	AG	AK	AL	AW	YX	YM	AU	AA	AB	AD	AE	AF	AG	AH	EE	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AV	AW	YC	YG	YW	YX		YJ	YM	YT
345	DZLL000001	Flywheel	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1D
19	XTB3+8J	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1B, 2D, 2I, 2K, 6C, 6G, 7J, 8F	
4N	XSN3+W8FC	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8B	
9H	XTN26+6J	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5G	
36	XYN3+F6	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1B, 1C	
D6	XXE3A6FY	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1E	

## 7.4 Fuser Unit

[illegible]

**NOTE:** When Thermostat (Ref. No. 432) and/or Thermal Fuse (Ref. No. 433) was defective by Fuser over heat condition. \* mark part also may deformed. Please replace \* mark part (Refer to page 7-8, 7-14) when you replace these part at the same time or replace entire Fuser Unit (Ref. No. 431)

## 7.5 Electrical Parts (1/3)

[illegible]

## Electrical Parts (2/3)

Ref No	Part No.	Part Name	880												770												Location										
			AB	AG	AK	AL	AW	YX	YM	AU	AA	AB	AD	AE	AF	AG	AH	EE	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AV	AW	YC	YG	YH	YJ	YK	YT	
512	DZYNA1435F	PC Board, LCU																																			1A
512	DZYNA1573U	PC Board, LCU																																			1A
512	DZYNA1573X	PC Board, LCU																																			1A
512	DZYNA1573GG	PC Board, LCU																																			1A
512	DZYNA1573MG	PC Board, LCU																																			1A
512	DZYNA1573A	PC Board, LCU																																			1A
512	DZYNA1436BC	PC Board, LCU																																			1A
512	DZYNA1436GH	PC Board, LCU																																			1A
512	DZYNA1436KE	PC Board, LCU																																			1A
512	DZYNA1436LD	PC Board, LCU																																			1A
512	DZYNA1436WE	PC Board, LCU																																			1A
512	DZYNA1436MG	PC Board, LCU																																			1A
512	DZYNA1436XE	PC Board, LCU																																			1A
513	ETXDN036A4C	PSU, Low Voltage (100V)																																			6E
513	ETXDN036E4CA	PSU, Low Voltage (200V)																																			6E
514	DZYNA1556D	ACI Assembl																																			3A
515	DZJH000020	Spacer, FCB PC Board																																			2G
516	DZJK000006	Clamp, Harness																																			1F, 4D
517	DZJK000009	Clamp, Harness																																			3C
518	DZJA000180	Bracket, PCI																																			7A
519	DZEC100305	PC Board, PCI																																			7A
520	DZFP000196	Harness, LCU PC Board																																			2A, 3C
522	DZFP000198	Harness, SNS PC Board																																			1J
522	DZFP000387	Harness, SNS PC Board																																			1J
523	DZFP000195	Harness, Display PC Board																																			2J
524	DZFP000201	Harness, LED																																			2J
526	DZFP000199	Harness, CCD PC Board																																			3K
527	DZFP000202	Harness, Speaker																																			3K
528	DZFP000382	Harness, LSU & DC MOTOR																																			1H, 2H
531	DZFP000388	Harness, SNS, 2 (ILS, Toner & Timing)																																			2G, 4J
533	DZFP000210	Harness, HVPS																																			3H, 8H
535	DZFP000385	Harness, FCBST, 2																																			3L, 4J, 5E
536	DZFP000207	Harness, SNS, 1																																			4I
539	DZFP000204	Harness, OPT, 1																																			5K
539	DZFP000206	Harness, OPT, 3																																			5K
540	DZFP000211	Harness, Fuser Lamp																																			5D
541	DZFP000300	Wire, FGND, 1																																			3B
542	DZHA000061	Shield, Mylar																																			5A
543	DZJA000285	Bracket, MDM, A																																			2B
544	DZJA000286	Bracket, MDM, B																																			2B
545	DZJA000287	Bracket, MDM, C																																			1D
546	DZJH000025	Spacer, Locking																																			2D
547	DZEC100416	PC Board, MDM																																			1D
547	DZEC100452	PC Board, MDM																																			1D





## 7.6 Paper Transportation (1/2)

[illegible]



[illegible]

**NOTE:** When Thermostat (Ref. No. 432) and/or Thermal Fuse (Ref. No. 433) was defective by Fuser over heat condition. \* mark part also may deformed.  
Please replace \* mark part (Refer to page 7-8, 7-14) when you replace these part at the same time or replace entire Fuser Unit (Ref. No. 431)

### 7.7 250-Sheet Feeder Unit (1/2)

### Exploded View & Parts List

[illegible]

## 250-Sheet Feeder Unit (2/2)

Ref No	Part No.	Part Name	880												770												Location										
			AB	AG	AK	AL	AW	YX	YM	AU	AA	AB	AD	AE	AF	AG	AH	EE	AJ	AK	AL	AM	AN	AP	AQ	AR					AS	AT	AV	AW	YC	YG	YW
746	DZLA000081	Roller, Paper Feed	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3F
747	DZKP000091	Spring, Size	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7A
748	DZEC100410	PC Board, SSN (Paper Size)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7A
750	DZFP000344	Harness, SSN, 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7B	
751	DZJN000034	Rubber, Leg	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8G	
19	XTB3+8J	Screw																																		1A, 1C, 1D, 1E, 1G, 2D, 2E, 2F, 2G, 2H, 3G, 3I, 3J, 4C, 5F, 5G, 5J, 6A, 6F, 6G, 7D, 8A, 8B	
23	XYN3+F8	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2F	
5Y	XUC4	Ring, E-type	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1K, 2B, 2D, 3A, 2C	
5Z	XUC6	Ring, E-type	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2E, 4G	
B1	DZPB000007	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4A, 8E	
6L	DZPB000014	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5B	
C8	XTW3+8SFC	Screw	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2I, 4J	

## 7.8 250-Sheet Paper Cassette

Ref No	Part No.	Part Name	880																770																Location			
			AB	AG	AK	AL	AW	YX	YM	AU	AA	AB	AD	AE	AF	AG	AH	EE	AJ	AK	AL	AM	AN	AP	AQ	AR	AS	AT	AV	AW	YC	YG	YW	YX	YJ	YM	YT	
801	DZJF000194	Base Frame, Cassette	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7F
802	DZJF000159	Guide, Paper Width	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5I
803	DZJF000160	Guide, Paper Length	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4B
804	DZJM000091	Lock, Pressure Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3F
805	DZJC000079	Clip, Paper, Right	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3D
806	DZJC000080	Clip, Paper, Left	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4H
807	DZJD000003	Plate, Lock	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4D
808	DZKM000008	Plate, Pressure	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2G
809	DZKN000071	Spring	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3E, 4G
810	DZJP000005	Pad, Pressure Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1G
811	DZKN000298	Label, Size	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8G
812	DZKN000084	Spring, lock	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3F
813	DZKN000483	Instruction Label 3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7B
814	DZKN000300	Instruction Label 2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3I
815	DZHP000358	Cassette, Paper, 250 (Ref. No. 811 is not included)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-
816	DZJF000225	Paper Size Selector	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4C

## 7.9 500-Sheet Feeder Unit (1/2)

[illegible]

### 500-Sheet Feeder Unit (2/2)

[illegible]

## 7.10 500-Sheet Paper Cassette

Ref No	Part No.	Part Name	880												770												Location												
			AB	AG	AK	AL	AW	YX	YM	AU	AA	AB	AD	AE	AF	AG	AH	EE	AJ	AK	AL	AM	AN	AP	AQ	AR				AS	AT	AV	AW	YC	YG	YW	YX	YJ	YM
1001	DZJF000232	Base Frame, Cassette	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7C
1002	DZJF000228	Guide, Paper Width	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	7J
1004	DZJM000091	Lock, Pressure Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3G
1005	DZJC000079	Clip, Paper, Right	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4E
1006	DZJC000080	Clip, Paper, Left	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4I
1007	DZJD000003	Plate, Lock	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4D
1008	DZJF000231	Plate, Pressure	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3F
1009	DZKN000093	Spring	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3G
1010	DZJP000005	Pad, Pressure Plate	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1G
1011	DZKN000298	Label, Size	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8H
1012	DZKN000084	Spring, lock	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	3G
1013	DZKN000483	Instruction Label3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2I
1014	DZKN000300	Instruction Label2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	5J
1015	DZJF000225	Paper Size Selector	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4D
1016	DZJF000229	Guide, End, A	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4B
1017	DZJF000230	Guide, End, B	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2B
1018	DZHP000359	Cassette, Paper, 500 (Ref. No. 1011 is not included)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	-



### 7.11 Packing and Accessories (1/2)

Ref No	Part No.	Part Name	880												770												Location																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
			AB	AG	AK	AL	AW	YX	YM	AU	AA	AB	AD	AE	AF	AG	AH	EE	AJ	AK	AL	AM	AN	AP	AQ	AR		AS	AT	AV	AW	YC	YG	YV	YX	YJ	YK	YL	YM	YN	YO	YP	YQ	YR	YS	YT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
1101	DZRB000114	Carton Box							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	



## Packing and Accessories (2/2)

[illegible]

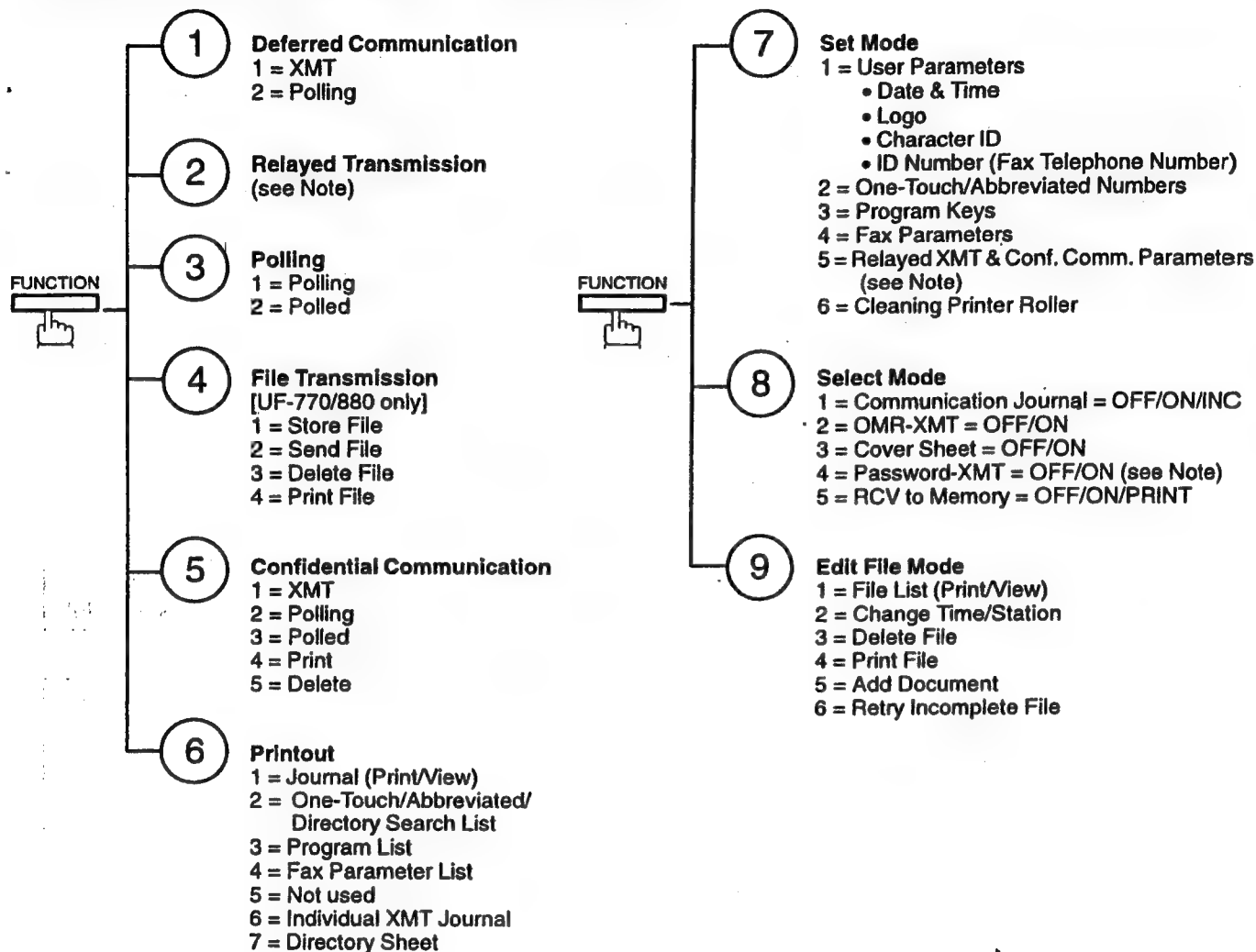
## **Chapter 8**

### **Installation**

**Notes**

## 8.1 Function Key

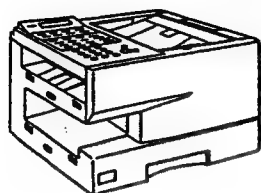
Any function can be started by first pressing **FUNCTION** and then enter the function number, or by pressing **▽** or **△** scroll key repeatedly until the desired function appears on the display.



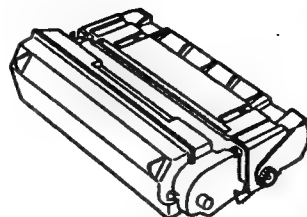
**Note:** If Fax Parameter is not preset to Valid position, which enables you to use the function, the display will not show the function.

## **8.2 Main Unit and Accessories**

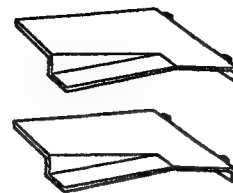
Unpack the carton and check that you have all the accessories illustrated.



**Machine**



**Toner Cartridge**



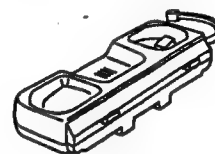
**Document Trays**



**Handset (see Note)**



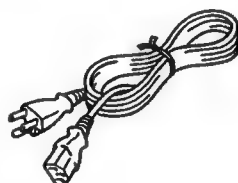
**Handset Cable (see Note)**



**Handset Cradle (see Note)**



**Telephone Line Cord**



**Power Cord**



**User's Guide**

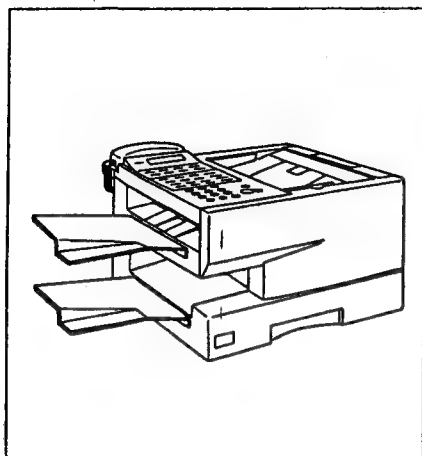


**Paper Size Label**



**Note:** Available as an option for the UF-550.

### 8.3 Installing the Accessories



Final Installed View

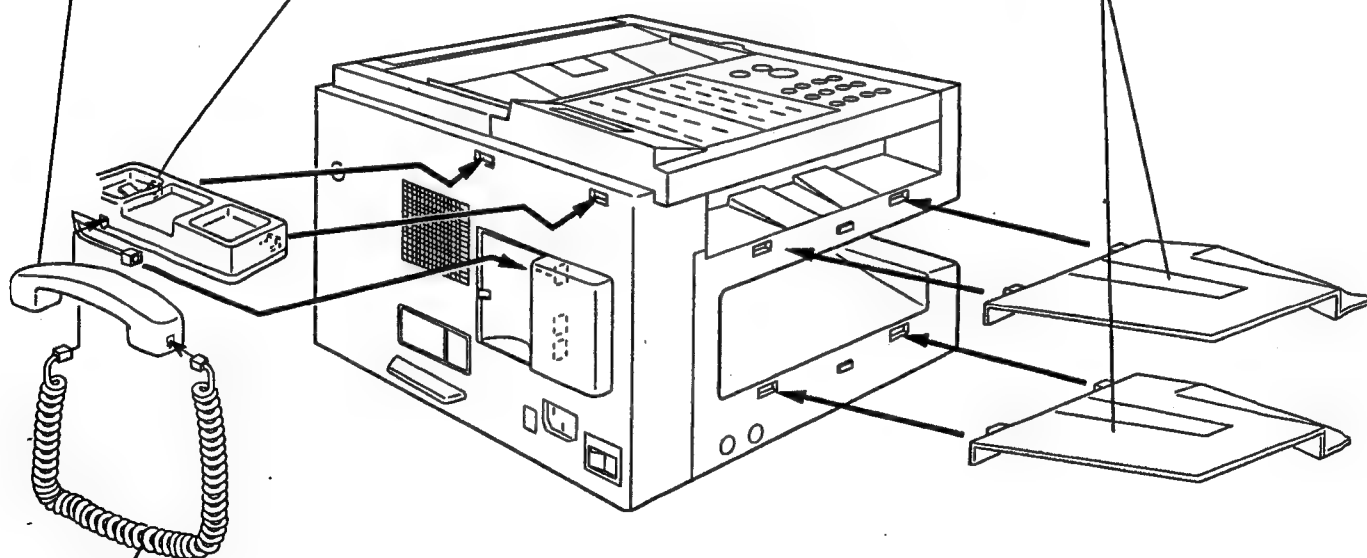
**Handset Cradle** [Available as an Option (UF-550)]  
Hook the projections into the square holes on the machine.  
Connect the cable into the HANDSET jack on the machine.

#### Handset

[Available as an Option (UF-550)]

#### Document Trays

Hook the projections into the square holes on the machine.



#### Handset Cable

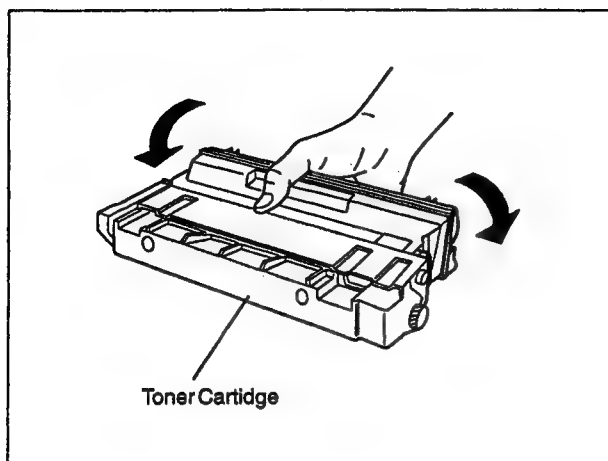
[Available as an Option (UF-550)]



**Note:** For some countries, the handset may not be available because of the country's regulation or specification.

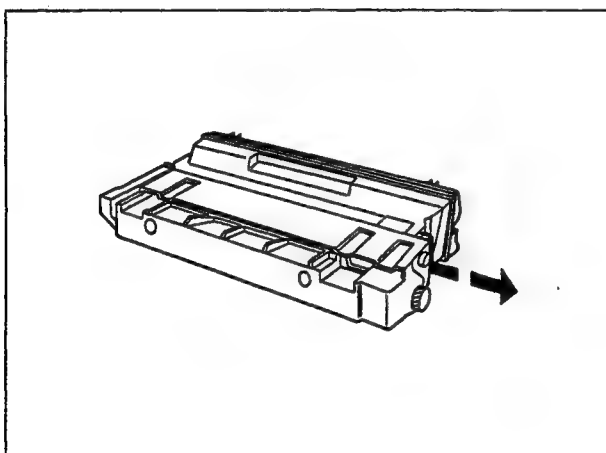
## 8.4 Installing the Toner Cartridge

1



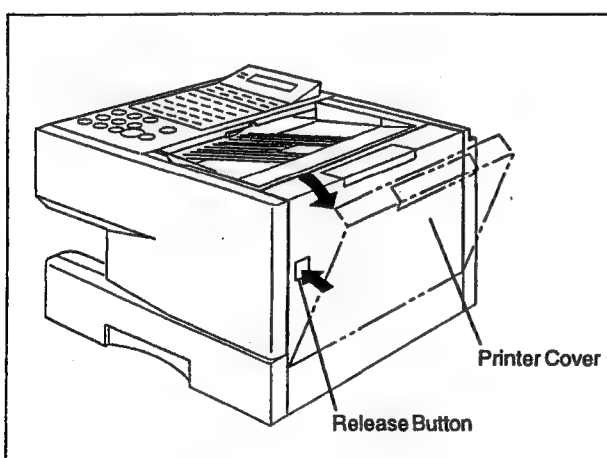
Unpack the Toner Cartridge and rock it back and forth as shown for 5 or 6 times to even the toner inside.

2



Remove the protective seal.

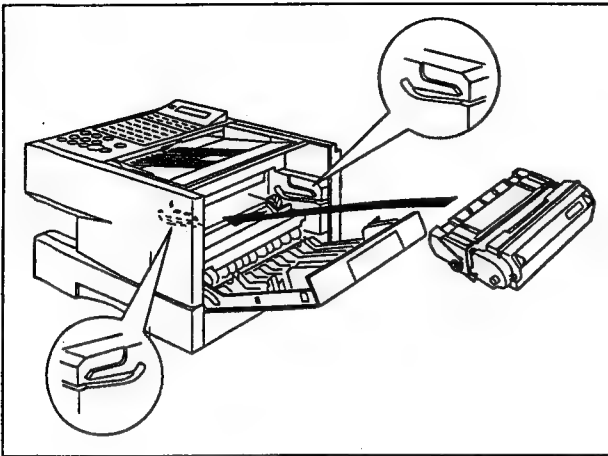
3



Push the release button to open the Printer Cover.

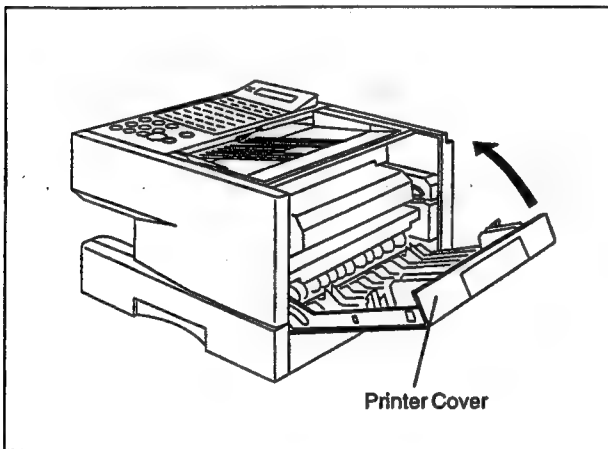
*Continued on the next page.*

**4**



Align the arrow and the projection on both sides as shown and insert the Toner Cartridge into the machine.

**5**



Close the Printer Cover firmly.



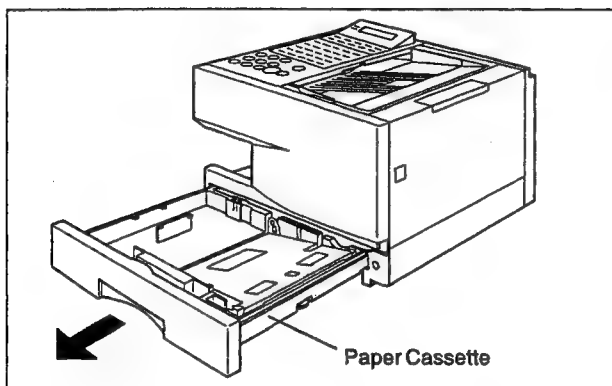
## 8.5 Loading the Recording Paper

### Paper Specifications

In general, most bond papers will produce excellent results. Most photocopy papers will also work very well. There are many "name" and "generic" brands of paper available. We recommend that you test various papers until you obtain the results you are looking for. For detailed recommended paper specifications, see page 170 of the User's Guide.

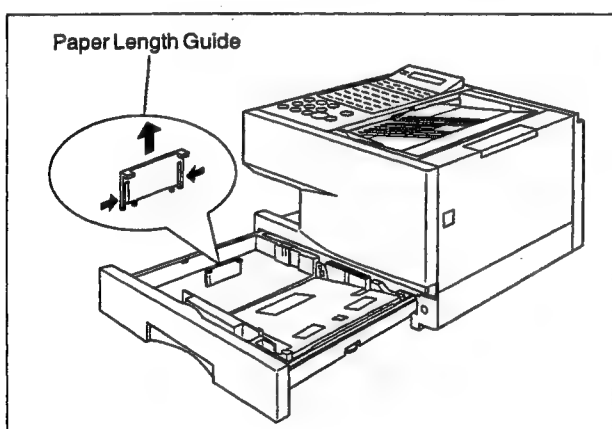
### How to Load the Recording Paper

1



Slide out the Paper Cassette from the machine.

2

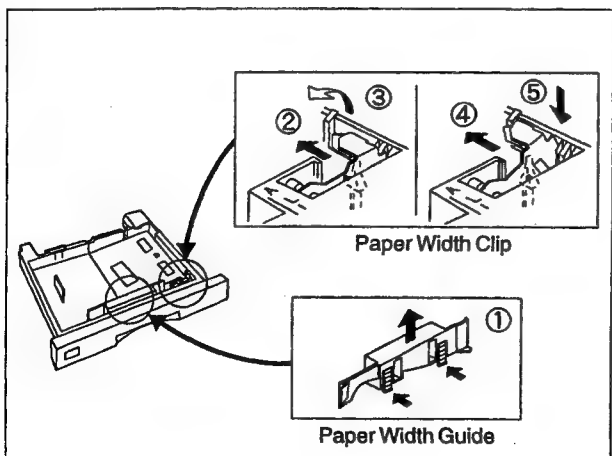


Adjust the Paper Length Guide to the proper paper size (A4, LTR, or LGL).

For LGL size paper, remove the Paper Length Guide and store it in the provided slot in the front left side of the Paper Cassette.

If reloading the same size of paper, skip the step 2 and 3.

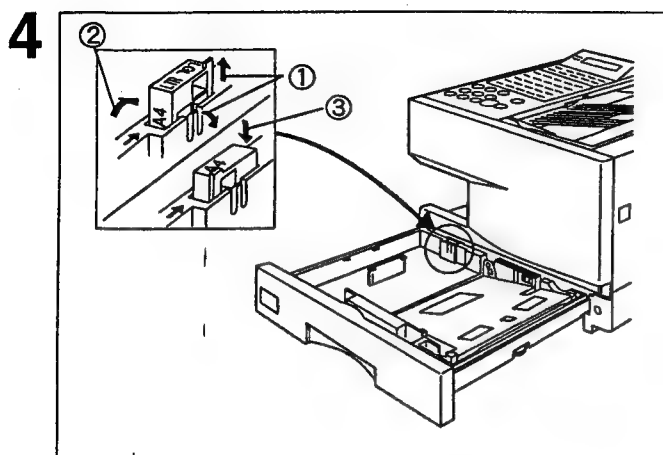
3



Adjust the Paper Width Guide and Clip to the proper paper (A4, or LTR/LGL).

The factory default for the Paper Width Guide and Clip are on A4 position. For LTR/LGL paper size, adjust by following the steps below.

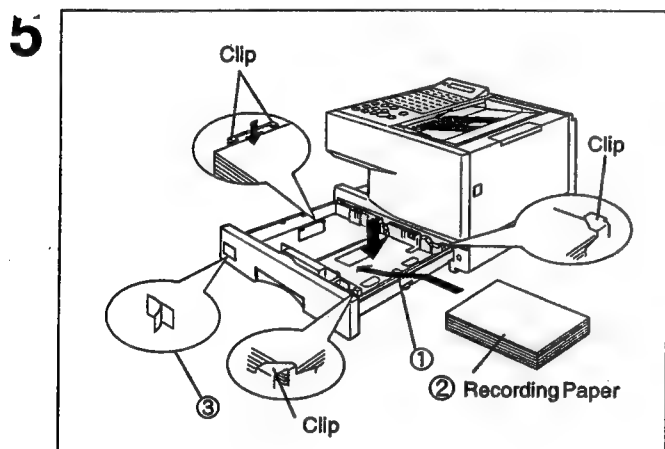
- ① Replace the Paper Width Guide into the proper slot (A4 or LTR/LGL).
- ② Release the Paper Width Clip latch.
- ③ Pull upwards to remove the Paper Width Clip.
- ④ Replace the Paper Width Clip into the A(A4) or L(LTR/LGL) slot.
- ⑤ Push down on the Paper Width Clip to latch it in place.



- ① Release the hook and remove the Paper Size Selector.
- ② Rotate the Paper Size Selector until the appropriate setting marked on the Selector is facing upward and the wording is upright.
- ③ Reinstall the Paper Size Selector.

[For UF-550]

There is no paper size selector on the paper cassette. Refer to page 22 of the User's Guide.

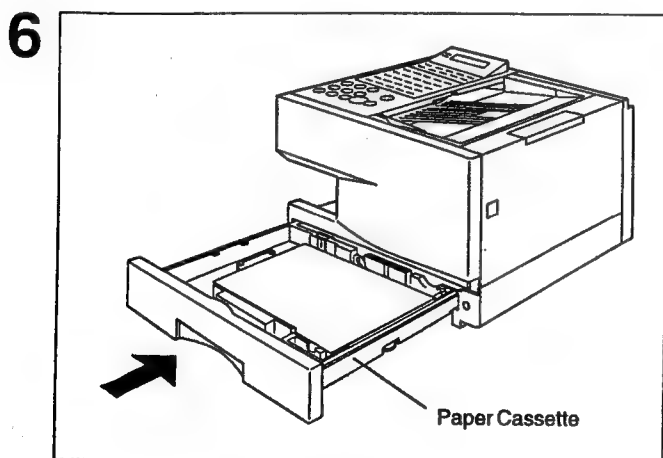


- ① Push the Pressure Plate until it is locked down.
- ② Load the paper into the Paper Cassette.

**Caution:** Make sure that the paper is set under the clips of the Paper Cassette. You can load about 250 sheets with standard weight paper (20 lb. or 75 g/m<sup>2</sup>). For paper specification see page 170 of the User's Guide.

- ③ Set the proper paper size label.

Slide the Paper Cassette into the machine.



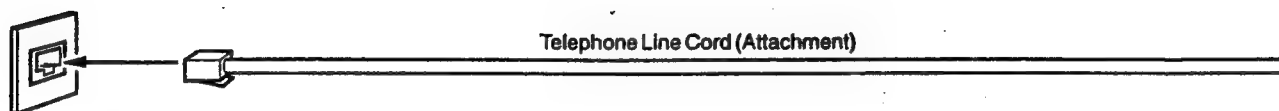
**Note:** 1. The Recording Paper Size setting must match the paper loaded in the cassette. See page 22 of the User's Guide.

2. Your machine will properly print on A4, Letter and Legal size paper only. If other size of paper (B4, B5, A5) is used, your machine may not print properly.

## 8.6 Connecting the Telephone Line Cord and Power Cord

### ■ Telephone Line Cord

Plug one end of the telephone line cord into the telephone jack supplied by the telephone company and the other end into the LINE jack on the rear of the machine.



### ■ Power Cord

Plug one end of the power cord into an ordinary AC outlet and the other end into the receptacle on the rear of the machine.

**Warning :** This apparatus must be properly grounded through an ordinary AC outlet.

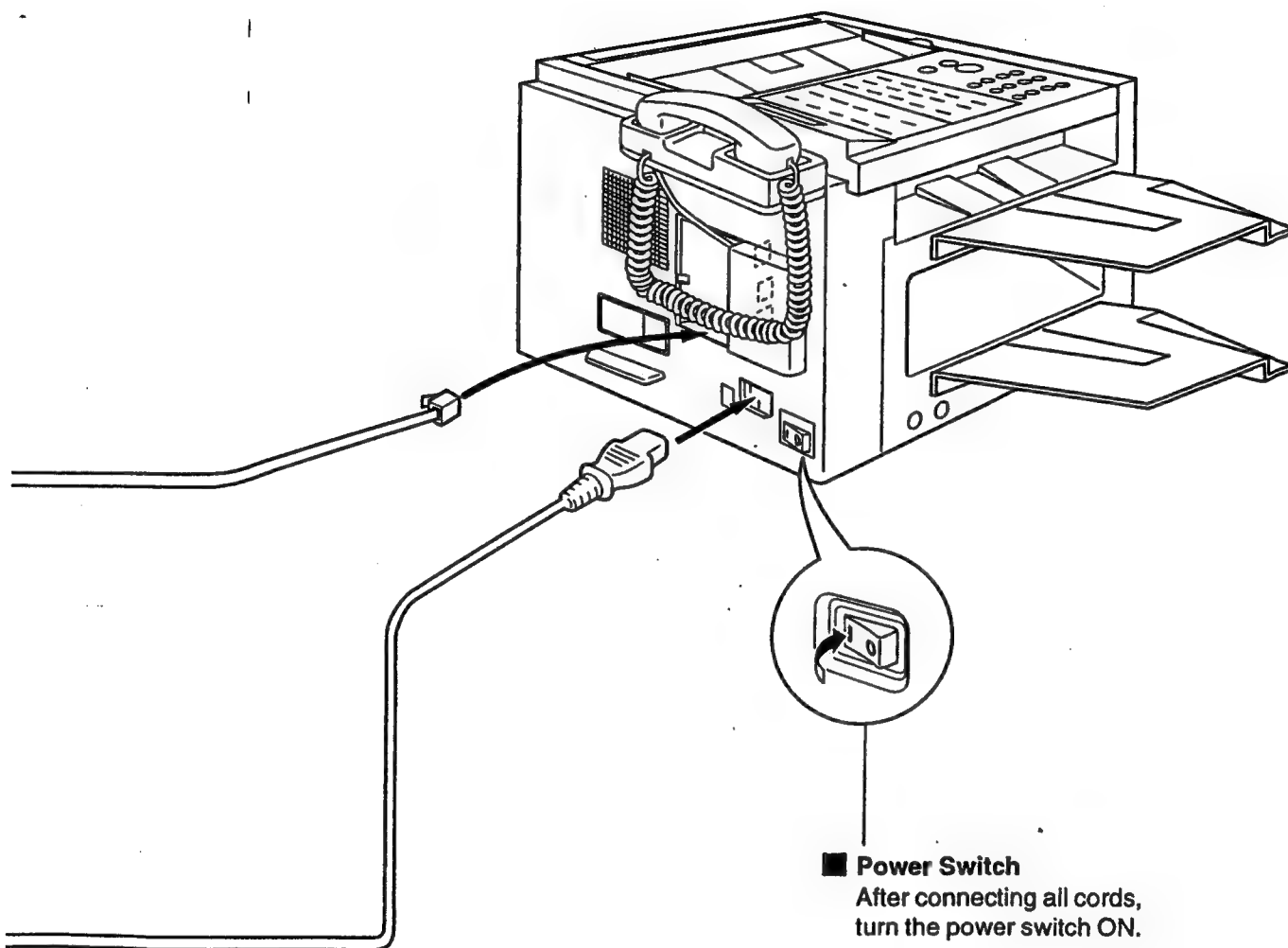


**Note:** 1. Your machine uses little power and you should keep it ON at all times. If the power is turned OFF for too long, the contents of the memory may be lost.

2. UF-770/880 has 2 separate rechargeable batteries to preserve the memory contents in case of a short time power failure. One for the machine parameters (such as LOGO, ID Number, Auto-dialer Telephone Number, etc.) which can back up for 10 days and the other one for the document memory, which can back up for 1 hour when fully charged.

UF-550 has a rechargeable battery to preserve the machine parameters only for up to 10 days when fully charged.

3. The built-in rechargeable batteries require 48 hours to be fully charged in the machine.

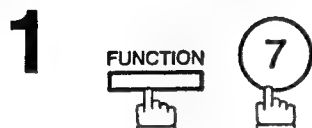


■ **Power Switch**  
After connecting all cords,  
turn the power switch ON.

## 8.7 Customizing Your Machine

Your facsimile machine has a variety of adjustable Fax Parameters. These parameters, listed in the Parameter Table, are preset for you and do not need to be changed. If you do want to make a change, read the table carefully. Some parameters, such as the Resolution, Contrast, and Verification Stamp parameters, can be temporarily changed by simple key operation just before a transmission is made. When the transmission ends, however, these parameters return to their preset values (Home position). Other parameters can only be changed by the procedure described below.

### Setting the Fax Parameters



SET MODE (1-6)  
ENTER NO. OR V ^

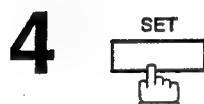


FAX PARAMETER (01-99)  
NO. =

**3** Enter Fax Parameter number from the Parameter Table (see following pages).

Ex: ①① for CONTRAST

FAX PARAMETER (01-99)  
NO. = 01



01 CONTRAST  
1: NORMAL

**5** Enter the new setting value.

Ex: ② for LIGHTER

01 CONTRAST  
2: LIGHTER



02 RESOLUTION  
1: STANDARD

To set another parameter, press **CLEAR** to return to step 3, or, to return to standby, press **STOP**.

**Note:** 1. To scroll the Fax Parameters in Step 2 or 4, press **V** or **^**.

2. To print out a Fax Parameter List, see page 153 of the User's Guide.

3. The built-in battery when fully charged can back up the Fax Parameter settings for up to 10 days when a power failure occurs.

Fax Parameter Table

No.	Parameter	Setting Number	Setting	Comments
01	CONTRAST	1	Normal	Setting the home position of the CONTRAST key.
		2	Lighter	
		3	Darker	
02	RESOLUTION	1	Standard	Setting the home position of the RESOLUTION key.
		2	Fine	
		3	S-Fine	
04	STAMP	1	Off	Setting the home position of the STAMP key. To select the stamp function when document is stored in memory (see Fax Parameter No. 28).
		2	On	
05	MEMORY	1	Off	Setting the home position of the MEMORY key:
		2	On	
06	DIALING METHOD	1	Pulse	Selecting the dialling method.
		2	Tone	
07	HEADER PRINT	1	Inside	Selecting the printing position of the header. Inside : Inside TX copy area. Outside : Outside TX copy area. No print : Header is not printed.
		2	Outside	
		3	No print	
08	HEADER FORMAT	1	Logo, ID No.	Selecting the header format.
		2	From To	
09	RCV'D TIME PRINT	1	Invalid	Selecting whether or not the machine prints the received date & time, remote ID, percentage of reduction and page number on the bottom of each received page.
		2	Valid	
10	KEY/BUZZER VOLUME	1	Off	Selecting the volume of the Key/Buzzer tone.
		2	Soft	
		3	Loud	
12	COMM. JOURNAL	1	Off	Selecting the home position of printout mode for COMM. Journal Off/Always/Inc. only Off : No printout Always : Always prints out Inc. only : Printout when communication has failed.
		2	Always	
		3	Inc. only	
13	AUTO JOURNAL PRINT	1	Invalid	Selecting whether or not the machine prints the journal automatically after every 100* transactions. (*UF-550 : 32 transactions)
		2	Valid	
14	FILE ACCEPTANCE REPORT	1	Invalid	Selecting whether or not the machine prints the file acceptance journal. If you set this parameter to valid, the journal will be printed out after entering any communications using memory.
		2	Valid	

Continued on the next page.

No.	Parameter	Setting Number	Setting	Comments
17	RECEIVE MODE	1	Manual	Setting the reception mode either automatic or manual.
		2	Auto	
22	SUBSTITUTE RCV	1	Invalid	Selecting whether or not the machine receives to memory when recording paper runs out, toner runs out or recording paper jammed.
		2	Valid	
23	RECORDING PAPER SIZE	1	A4	Setting the recording paper size installed in your machine. (UF-550 only)
		2	Letter	
		3	Legal	
24	PRINT REDUCTION	1	Fixed	<p>Selecting print reduction mode.</p> <p>Fixed: Reduce received document according to setting of Parameter No. 25.</p>
		2	Auto	Auto: Reduce received document according to the length of received documents.
25	REDUCTION RATIO	70	70%	Selecting fixed print reduction ratio from 70% to 100%. This parameter functions only when fixed print reduction is selected on fax parameter no. 24.
		---	---	
		100	100%	
26	POLLING PASSWORD		(—)	Setting a 4-digit password for secured polling.
27	POLLED FILE SAVE	1	Invalid	Selecting whether or not the machine retains the polled document in memory even after the document is polled once.
		2	Valid	
28	STAMP AT MEM. XMT	1	Invalid	Selecting whether or not the machine stamps the original documents when storing the documents into memory. (depending on the Stamp setting on the Control Panel.)
		2	Valid	
30	DRD SERVICE	1	Invalid	Selecting whether or not the machine is available "DRD Service". If this parameter is set to "Valid", your machine detects the specified ring pattern only to receive a document automatically.
		2	Valid	
31	INCOMPLETE FILE SAVE	1	Invalid	Selecting whether or not the machine retains the document in memory if the document is not successfully transmitted.
		2	Valid	
32	COPY REDUCTION	1	Invalid	Selecting whether or not the machine performs copy reduction in accordance with the setting of Parameter No. 24 and 25.
		2	Valid	
33	XMT REDUCTION	1	Invalid	Selecting whether or not the machine performs reduction when the transmitting document is wider than the recording paper used at the receiving machine. (UF-770/880 only)
		2	Valid	
34	POWER SAVE TIMER	—	Start-Time	To reduce the power consumption of the machine in standby, select the time period to turn off the high temperature fuser unit when the printer is idle. Factory default is always "ON" (When Start = 00:00 and End = 00:00).
		—	End-Time	

Continued on the next page.

No.	Parameter	Setting Number	Setting	Comments
37	RCV TO MEMORY		(----	Enter a 4-digit password used to print out the received document in memory by F8-5 (RCV TO MEMORY). When F8-5 is set to On, this parameter will not be shown on the LCD display.
38	FAX ACCESS CODE		(----	Enter a 4-digit Fax Access Code to secure the machine from unauthorized use.
40	RELAY XMT REQUEST	1	Invalid	Selecting whether or not the machine performs Relay XMT Request.
		2	Valid	
41	CONF. FAX PARAMETER	1	Invalid	Selecting whether or not the machine performs Confidential Network Communication.
		2	Valid	
42	CONF. POLLED FILE SAVE	1	Invalid	Selecting whether or not the machine saves the confidential polled file even after the file is polled once.
		2	Valid	
43	PASSWORD-XMT	1	Off	Setting a 4-digit XMT-Password and selecting whether or not the machine performs and checks the XMT-Password of the receiving station when transmitting.
		2	On	
44	PASSWORD-RCV	1	Off	Setting a 4-digit RCV-Password and selecting whether or not the machine performs and checks the RCV-Password of the transmitting station when receiving.
		2	On	
46	SELECT RCV	1	Invalid	Selecting whether or not the machine performs selective reception.
		2	Valid	
48	TELEPHONE LINE	1	PSTN	Selecting the type of line connected.
		2	PBX	
49	PSTN ACCESS CODE		0---	Setting PSTN Access Code. (max. 4 digits)
50	FLASH KEY	1	Earth	Selecting to use FLASH on control panel either as Earth key or Flash key.
		2	Flash	
52	DIAGNOSTIC PASSWORD		(----	Setting the password for Remote Diagnostic Mode. Please ask your Panasonic Authorized Dealer for details.
53	SUB-ADDRESS PASSWORD		(----	Setting a 20-digit password for secured sub-address communication.
54	FAX FORWARD	1	Invalid	Selecting whether or not the machine performs the Fax Forward. (UF-770/880 only)
		2	Valid	
55	OMR-XMT	1	Off	Setting the home position of the OMR-Transmission parameter in the Select Mode.
		2	On	
56	COVER SHEET	1	Off	Setting the home position of the Cover Sheet parameter in the Select Mode.
		2	On	

Continued on the next page.



No.	Parameter	Setting Number	Setting	Comments
58	LANGUAGE	1	English	Selecting the language to be shown on the display and reports.
		2	French	
		3	German	
59	PARALLEL PORT I/F [See note 3]	1	Invalid	Selecting whether the machine enables the Printer interface or PC interface.
		2	Printer Interface	
		3	PC Interface	
60	OPTION PAGE MEMORY [See note 4]	0	0 MB	Selecting the additional memory size to be allocated as the Page Memory used for the Printer/PC interface. The amount of additional memory allocated will reduce the size of available Document Memory.
		1	1.5 MB	
65	PRINT COLLATION	1	Invalid	Selecting whether or not the machine prints out documents in sequence.
		2	Valid	
77	LOGO/DEPT. CODE	1	Invalid	Selecting whether or not the machine performs the Multiple Logo or Department Code operation. (UF-770/880 only)
		2	Multi-LOGO	
		3	Dept. Code	
99	MEMORY SIZE	-	-	Display the amount of base and optional memory installed. (Base Memory + Optional Memory)



- Note:**
1. The contents of Fax Parameter may differ depending on the each country's regulation or specification.
  2. The standard settings are printed on the Fax Parameter List. To print out Fax Parameter List.
  3. This parameter is available only when the Parallel Port Interface Option is installed.
  4. This parameter is available only when the Parallel Port Interface Option and Optional Memory Card (2 MB or more) are installed.


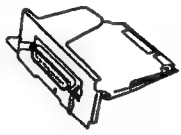
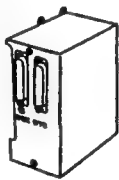
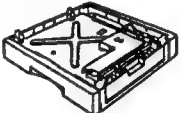
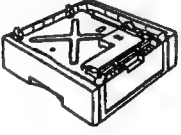


## **Chapter 9**

### **Options**

## 9.1 Options and Supplies

Please contact your local Panasonic dealer for availability.


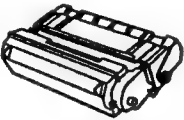
### A. Options:

Order No.	Picture	Description	Available Models
UE-403117		Handset Kit	UF-550
UE-404053		Parallel Port Interface Kit (Used for Printer or PC Interface)	UF-550
UE-404058			UF-770
UE-404059			UF-880
UE-404056		V.24/Encryption Interface Kit	UF-770
UE-409051 or UE-409057		250 sheets Letter / Legal / A4 Size Paper Cassette with the Feeder Unit	UF-550
UE-409057			UF-770 UF-880
UE-409056		500 sheets Letter / Legal / A4 Size Paper Cassette with the Feeder Unit	UF-770 UF-880
UE-410006		Expansion IC Memory Card, 1 MB	UF-550
UE-410007		Expansion IC Memory Card, 2 MB	UF-770
UE-410008		Expansion IC Memory Card, 4 MB	UF-880
UE-410029		Expansion IC Memory Card, 8 MB	UF-770 UF-880
UE-403125		72 hours battery back-up option kit	UF-770 UF-880



**Note:** For some countries, the handset may not be available because of the country's regulation or specification.

**B. Supplies:**

Order No.	Picture	Description	Available Models
FX-13-2P		Verification Stamp	UF-550 UF-770 UF-880
UG-3313		Toner Cartridge	UF-550 UF-770 UF-880

## 9.2 Installing Optional Feeder Unit (UE-409057)

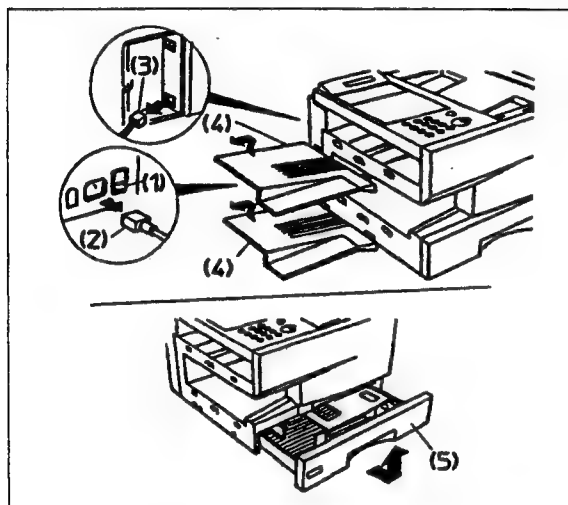
### A. Contents

Qty.	Description	Part No.	Remarks
1	250 Sheets Paper Cassette with Feeder Unit	—	
1	Paper Size Label Set	DZNK000298	

### B. Installation

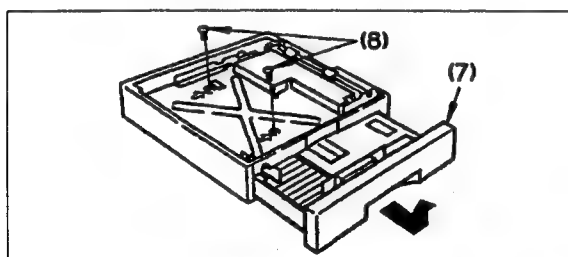
**NOTE:** Install this Feeder Unit as the 2nd Feeder Unit only.

1



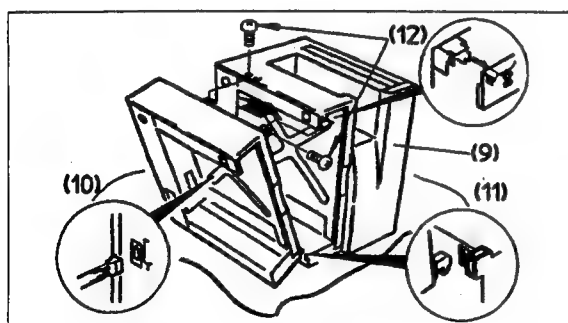
- (1) Turn the Power Switch "OFF".
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cord.
- (4) Remove the Document Trays.
- (5) Remove the Paper Cassette from the machine.
- (6) Remove the Toner Cartridge from the machine.

2



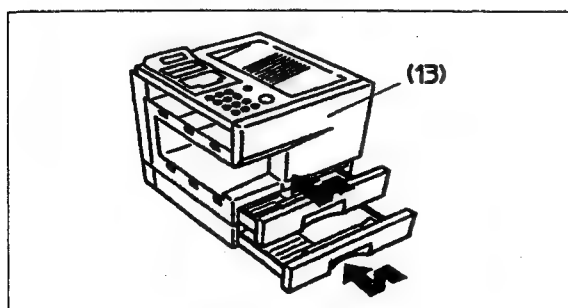
- (7) Remove the Paper Cassette from the Optional Feeder Unit.
- (8) Remove the two Screws on the new Feeder Unit marked by arrows.  
(These screws are used to attach the Feeder Unit to the machine in step 12.)

3



- (9) Place the machine on its right side over a clean cloth to prevent damaging the Printer Cover.
- (10) Plug-in the connector of the Feeder Unit.
- (11) Hook the latches of the Feeder Unit into the holes and set the Feeder Unit in the direction of the arrow.
- (12) Secure the Feeder Unit with the screws removed in step 8.

4



- (13) Place the machine upright.
- (14) Re-install the Document Trays, the Paper Cassettes and the Toner Cartridge.
- (15) Re-connect the Power Cord and the Telephone Line Cord.
- (16) Turn the Power Switch "ON".
- (17) Print some pages from the Optional Feeder Unit to confirm its operation.

**Note:** The paper size guides are factory set to the letter size. If you are using either A4 or legal size paper, please adjust the paper size guides accordingly.

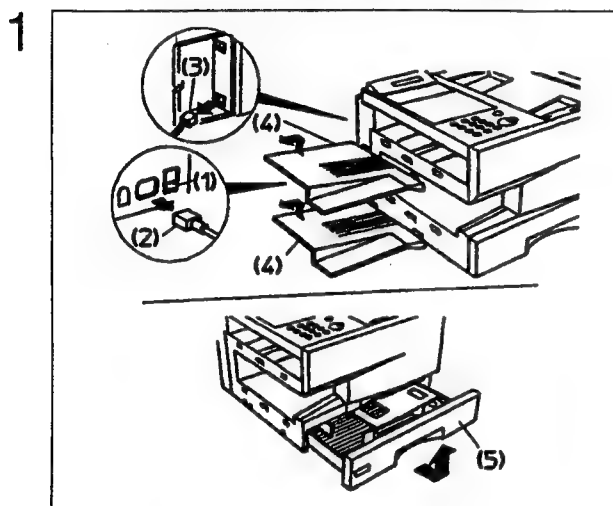
### 9.3 Installing Optional Feeder Unit (UE-409056)

#### A. Contents

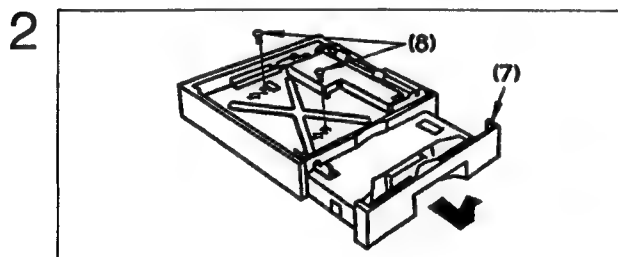
Qty.	Description	Part No.	Remarks
1	500 Sheets Paper Cassette with Feeder Unit	—	
1	Paper Size Label Set	DZ NK000298	

#### B. Installation

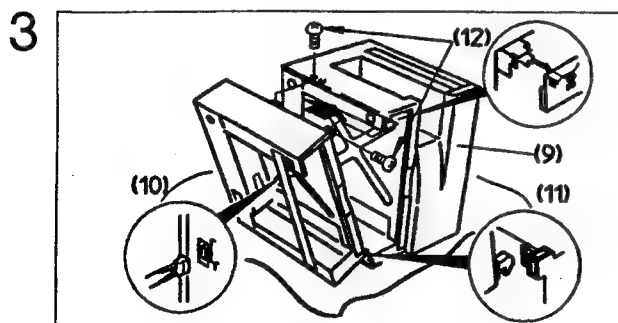
**NOTE:** Always install this Feeder Unit at the base of the unit. Install it as the 2nd Feeder Unit when configured for two cassettes or as the 3rd Feeder Unit when configured for three cassettes.



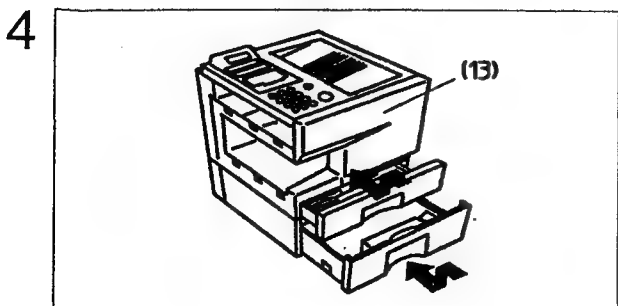
- (1) Turn the Power Switch "OFF".
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cord.
- (4) Remove the Document Trays.
- (5) Remove the Paper Cassette from the machine.
- (6) Remove the Toner Cartridge from the machine.



- (7) Remove the Paper Cassette from the Optional Feeder Unit.
- (8) Remove the two Screws on the new Feeder Unit marked by arrows.  
(These screws are used to attach the Feeder Unit to the machine in step 12.)



- (9) Place the machine on its right side over a clean cloth to prevent damaging the Printer Cover.
- (10) Plug-in the connector of the Feeder Unit.
- (11) Hook the latches of the Feeder Unit into the holes and set the Feeder Unit in the direction of the arrow.
- (12) Secure the Feeder Unit with the screws removed in step 8.



- (13) Place the machine upright.
- (14) Re-install the Document Trays, the Paper Cassette and the Toner Cartridge.
- (15) Re-connect the Power Cord and the Telephone Line Cord.
- (16) Turn the Power Switch "ON".
- (17) Print some pages from the Optional Feeder Unit to confirm its operation.

**Note:** The paper size guides are factory set to the letter size. If you are using either A4 or legal size paper, please adjust the paper size guides accordingly.

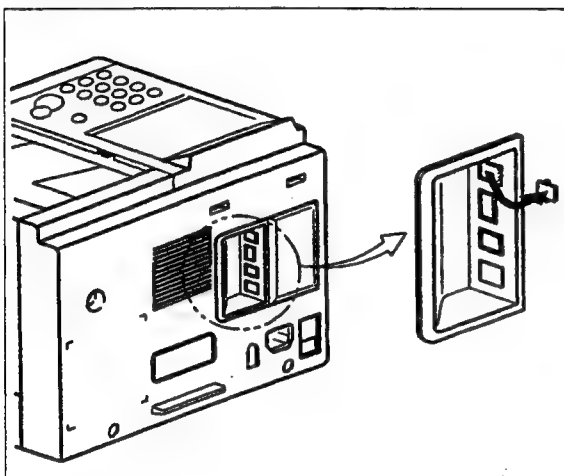
## 9.4 Installing Handset Kit (UE-403117)

### A. Contents

Qty.	Description	Part No.	Remarks
1	Handset	DZDU000031	
1	Handset Cord	DZFN000066	
1	Cradle Assembly	DZML000132	

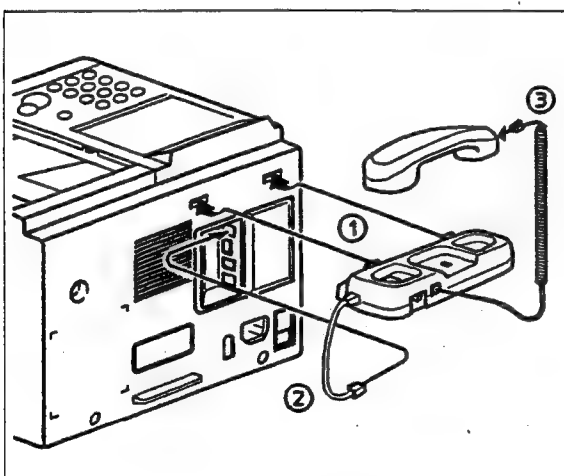
### B. Installation

1



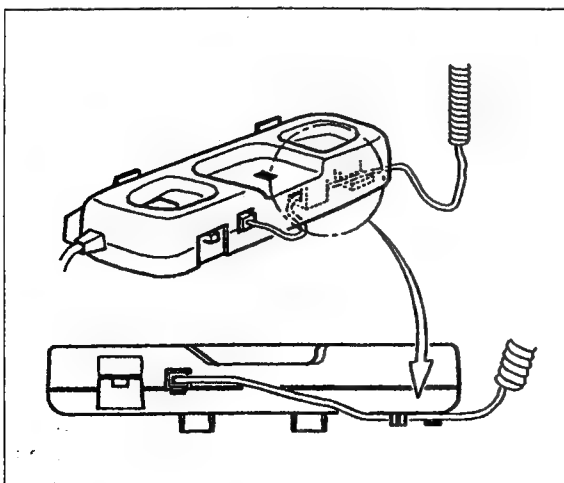
Break off the protective tab of the HANDSET Jack.

2



- (1) Hook the projections of the Cradle Assembly into the openings on the rear of the machine.
- (2) Connect the cable from the Cradle Assembly to the Handset Jack on the rear of the machine.
- (3) Connect the Handset Cord.

3



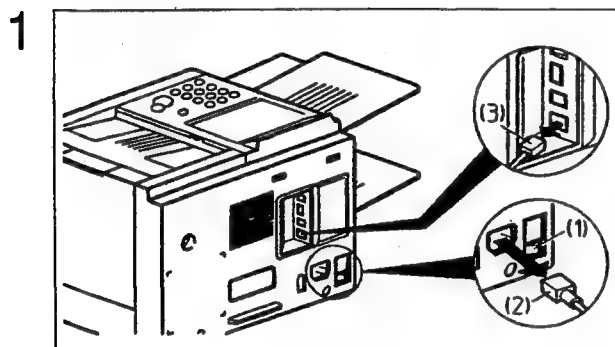
Route the Handset Cord along the hooks on the bottom of the Cradle Assembly.

## 9.5 Installing Parallel Port Interface Kit (UE-404053\*\*) (UE-404058\*\*) (UE-404059\*\*)

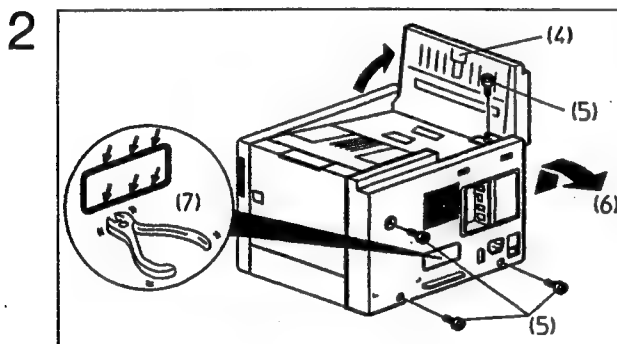
### A. Contents

Qty.	Description	Part No.	Remarks
1	Parallel Port Interface Assembly	DZHP000415	
1	Programmed ROM	DZAD0000**	
1	Cable Harness	DZFP000206	DZFP000204 (100V version)
1	Screw, 3 × 8	XTB3+8J	
1	Printer Driver (Floppy Disk 2DD)	DZQW000013	

### B. Installation

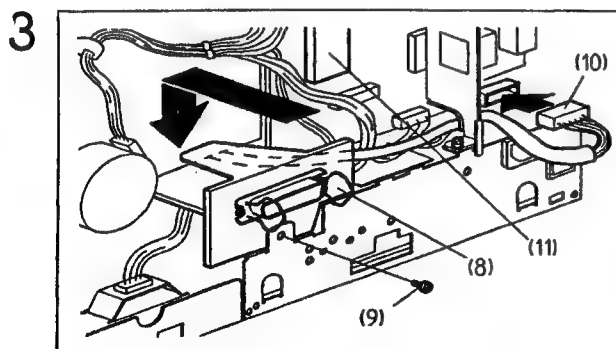


- (1) Turn the Power Switch "OFF".
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cord.

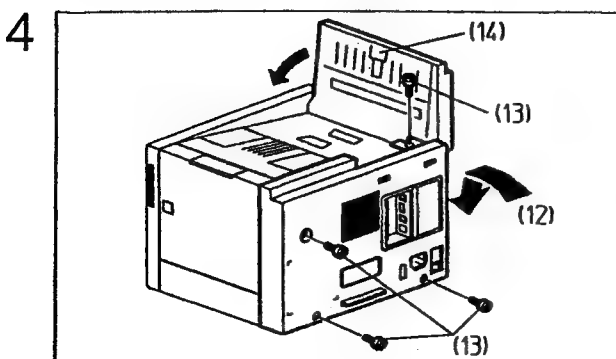


- (4) Open the Control Panel.
- (5) Remove four Screws.
- (6) Remove the Rear Cover.
- (7) Break off the protective tab.

**Note:** Order a protective film (P/N: DZHA000062) to cover up the opening if the interface is removed.



- (8) Install the Parallel Interface Assembly.
- (9) Install the Screw which come with the kit.
- (10) Connect the Option harness to the CN13 on the FCB PC Board.
- (11) Replace the new Option ROM (IC2) on the FCB PC Board.



- (12) Re-install the Rear Cover.
- (13) Re-install four Screws.
- (14) Close the Control Panel Unit.
- (15) Re-connect the Power Cord and the Telephone Line Cord.
- (16) Turn the Power Switch "ON".
- (17) Execute "PARAMETER INITIALIZE" in Test Mode No. 6.



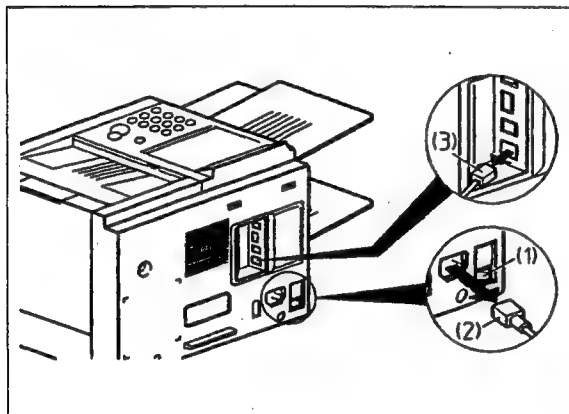
## 9.6 Installing V24/ENC Interface Kit (UE-404056\*\*)

### A. Contents

Qty.	Description	Part No.	Remarks
1	V24/ENC Interface Assembly	DZMA000565	
1	Programmed ROM	DZAD000***	
1	Harness, V24/ENC	DZFP000205	
1	Screw, 3 × 8	DZPB000007	

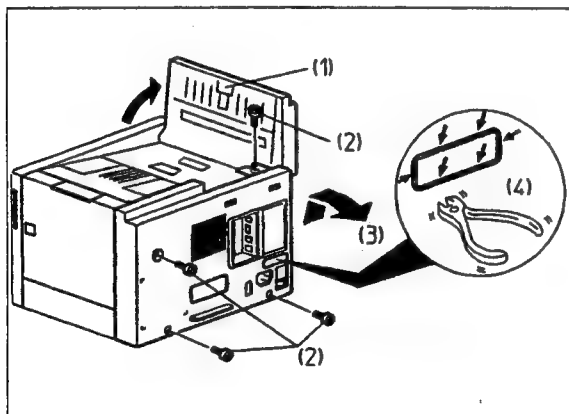
### B. Installation

1



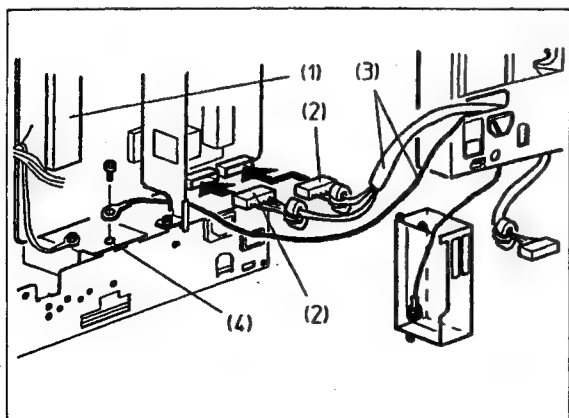
- (1) Turn the Power Switch "OFF".
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cord.

2



- (1) Open the Control Panel.
- (2) Remove four Screws.
- (3) Remove the Rear Cover.
- (4) Break off the pass through tab.

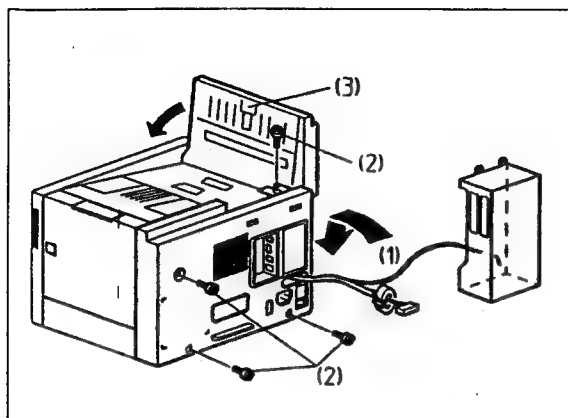
3



- (1) Replace the new Option ROM (IC2) on the FCB PC Board.
- (2) Connect the V24/ENC harness to the CNP13 and the CNP14 on the FCB PC Board.
- (3) Pass the harness and Ground wire through the opening of the Rear Cover.
- (4) Secure the Ground wire terminal to the metal Capacitor Cover with the screw as shown to the left.

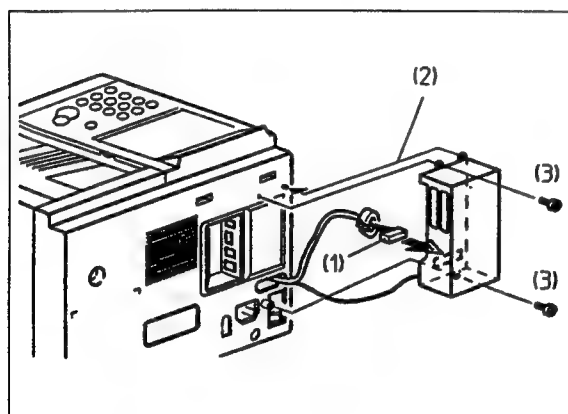
Continued on the next page.

4



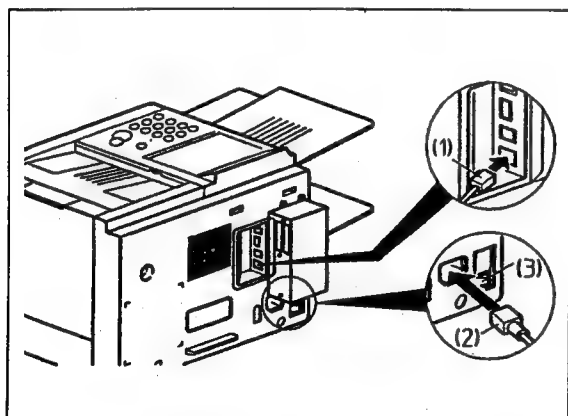
- (1) Re-install the Rear Cover.
- (2) Re-install four Screws.
- (3) Close the Control Panel.

5



- (1) Connect the V24/ENC harness to the CNP50 on the V24/ENC Interface Assembly.
- (2) Install the V24/ENC Interface Assembly to the Rear Cover.
- (3) Install the two Screws that are enclosed with the kit.

6



- (1) Re-connect the Telephone Line Cord.
- (2) Re-connect the Power Cord.
- (3) Turn the Power Switch "ON".

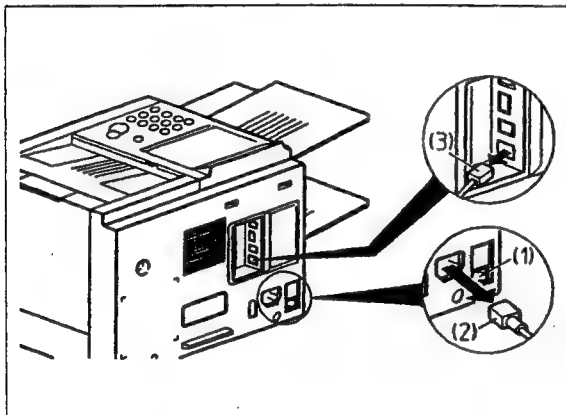
## 9.7 Installing 72-Hour Battery Kit (UE-403125\*\*)

### A. Contents

Qty.	Description	Part No.	Remarks
1	72-Hour Battery Assembly	DZMA000563	
1	Screw, 3 × 8	XTB3+8J	

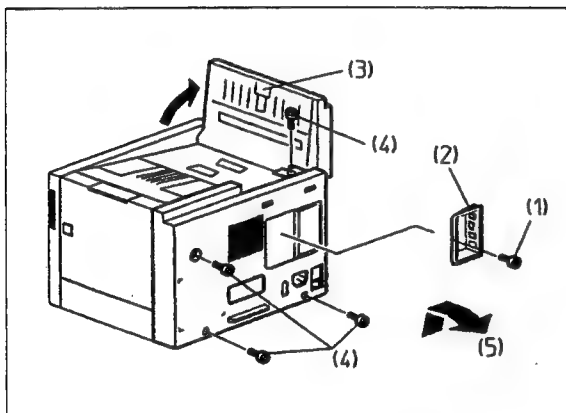
### B. Installation

1



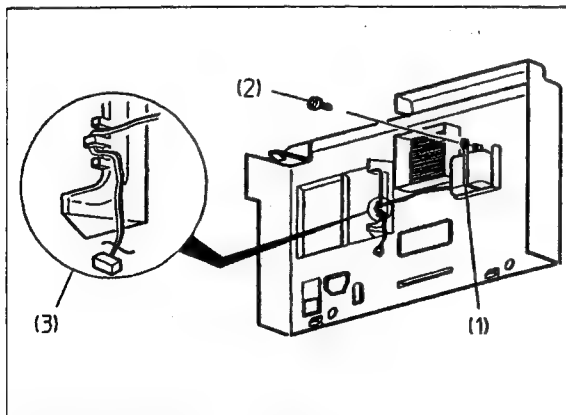
- (1) Turn the Power Switch "OFF".
- (2) Disconnect the Power Cord.
- (3) Disconnect the Telephone Line Cord.

2



- (1) Remove one Screw.
- (2) Remove the Battery Cover.
- (3) Open the Control Panel.
- (4) Remove four Screws.
- (5) Remove the Rear Cover.

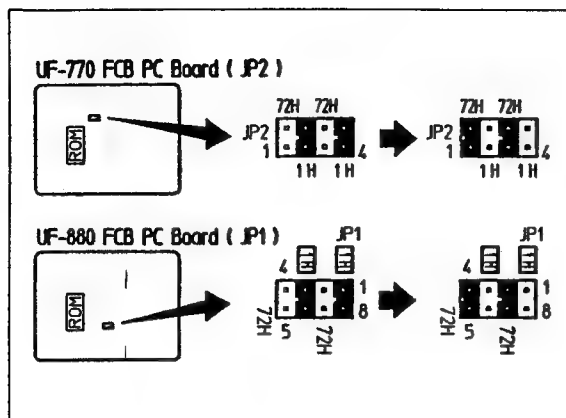
3



- (1) Install the 72-Hour Battery on the inside of the Rear Cover.
- (2) Install the Screw that is enclosed with the kit.
- (3) Route the Battery harness through the hook as shown to the left.

Continued on the next page.

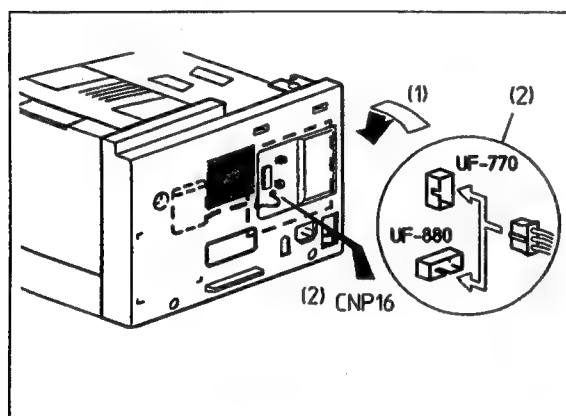
4



- (1) Change the Jumper settings from "1H" to "72H" on the FCB PCB Board.

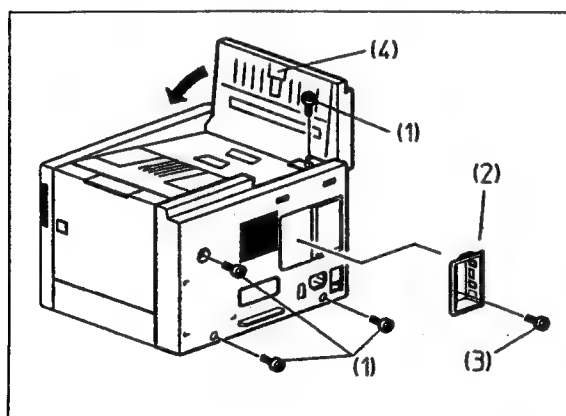
**Note:** The document information stored in the D-RAM will be lost during this setting change. However, the parameters information (i.e. Telephone No., User Parameters, etc.) store in the S-RAM is not affected.

5



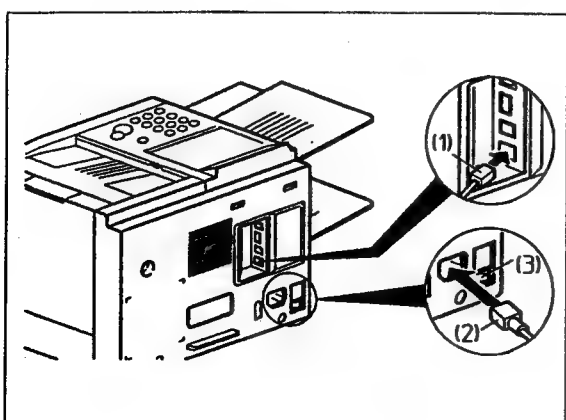
- (1) Re-install the Rear Cover.
- (2) Connect the Battery harness to the CNP16 on the FCB PC Board.

6



- (1) Re-install four Screws.
- (2) Re-install the Battery Cover.
- (3) Re-install one Screw.
- (4) Close the Control Panel.

7



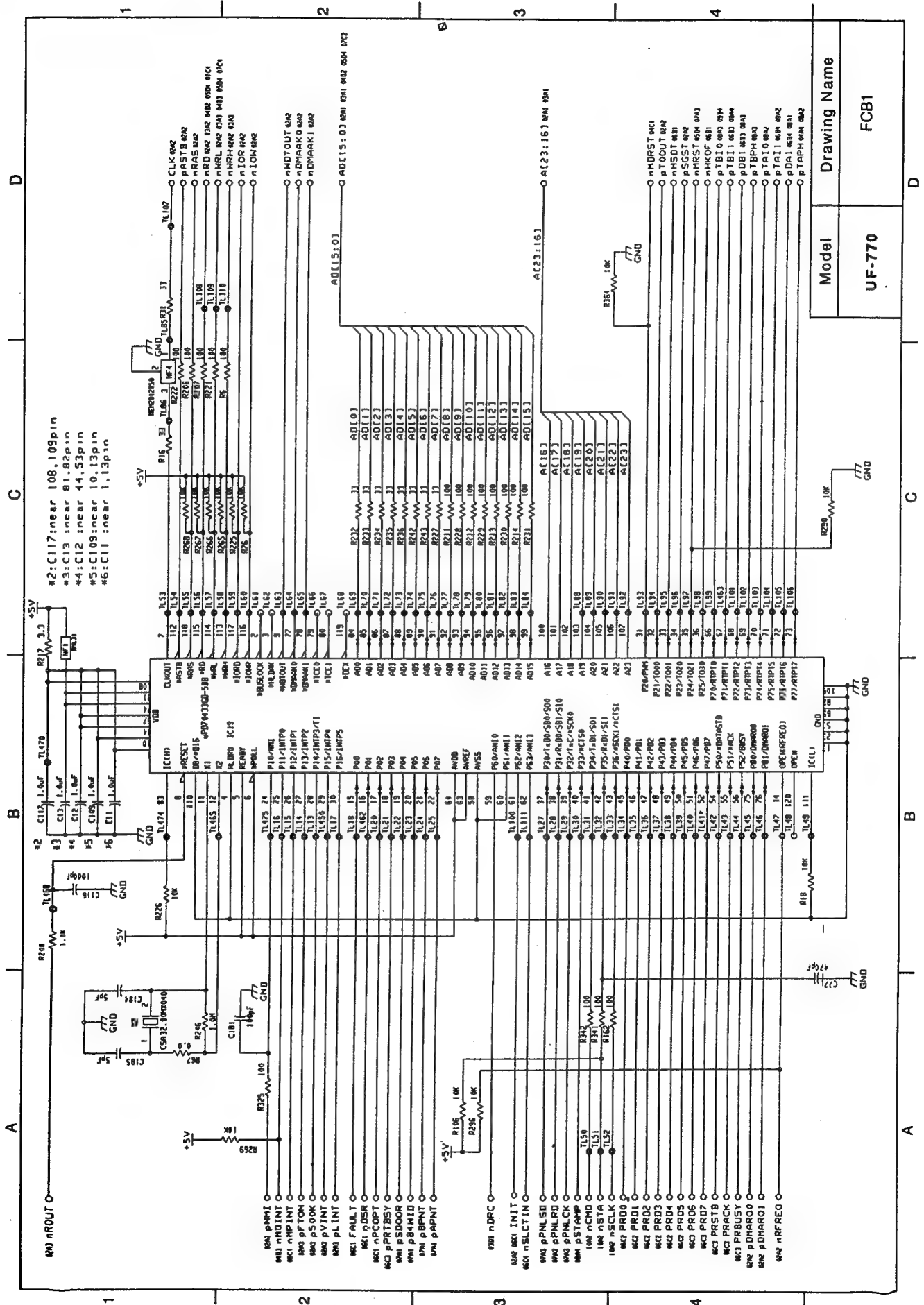
- (1) Re-connect the Telephone Line Cord.
- (2) Re-connect the Power Cord.
- (3) Turn the Power Switch "ON".

**Note:** The 72-Hour Battery Kit requires 48 hours to be fully charged after installation in the machine.

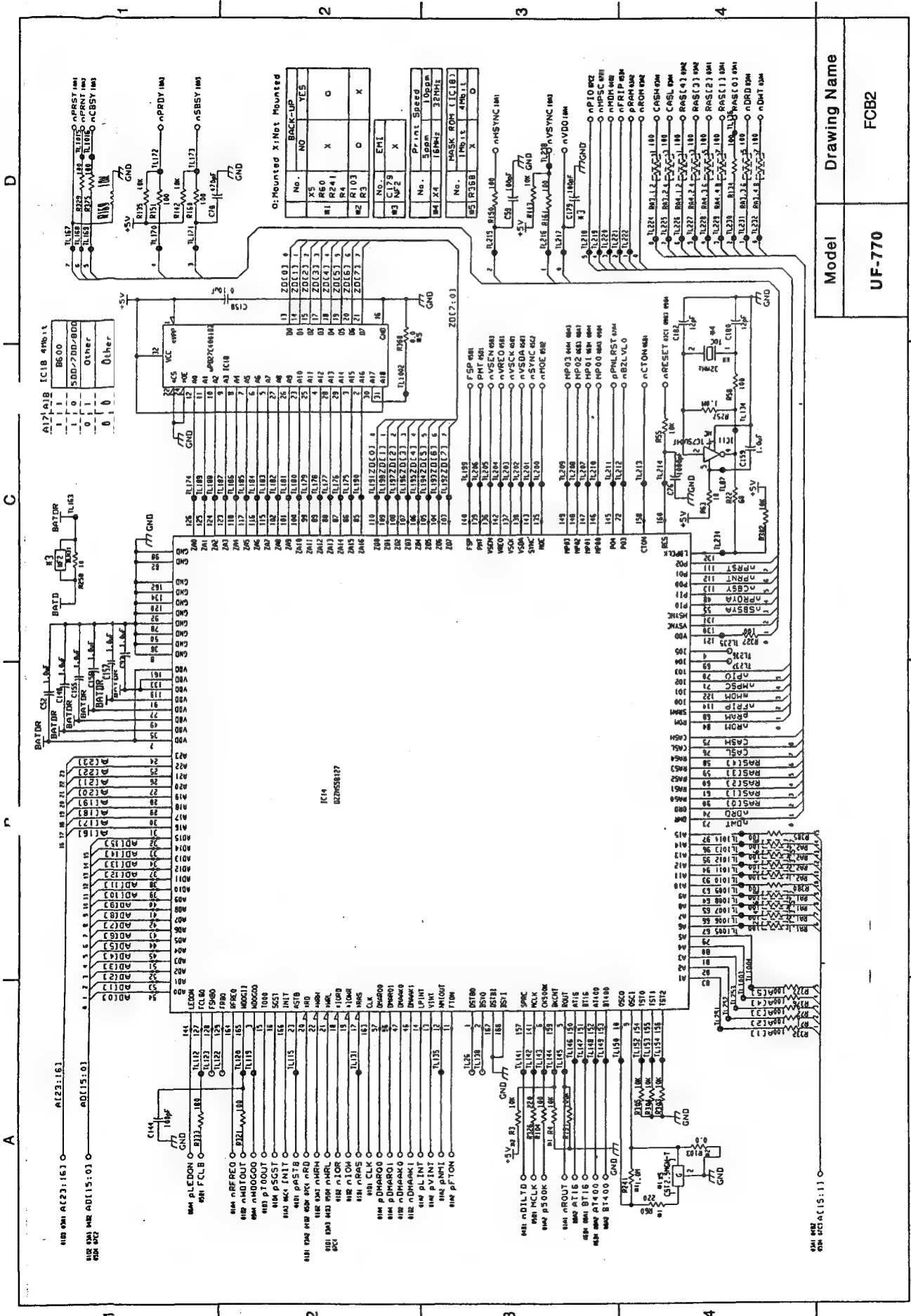
**Notes**

## **Chapter 10**

### **Schematic Diagram**

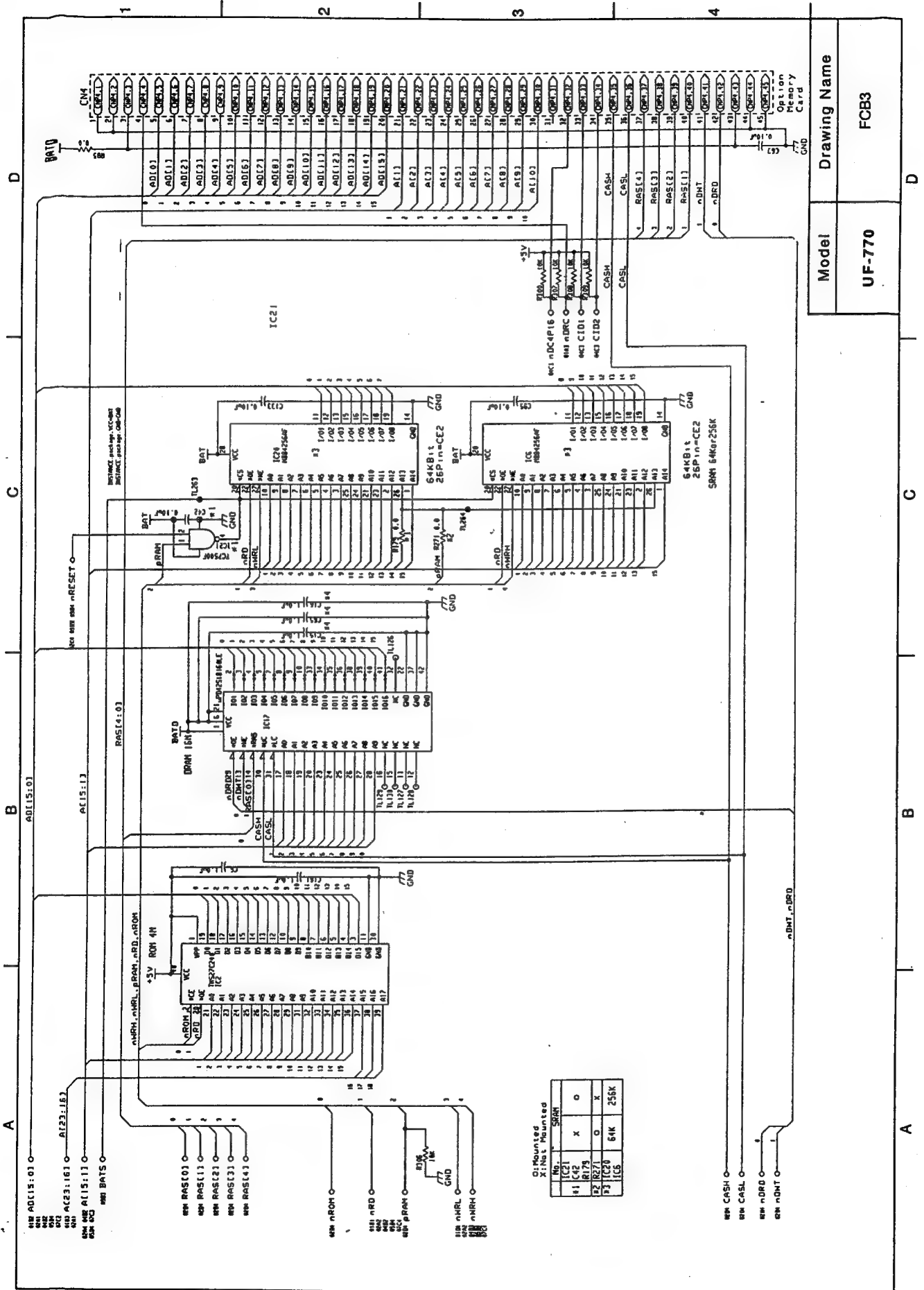


# Schematic Diagram

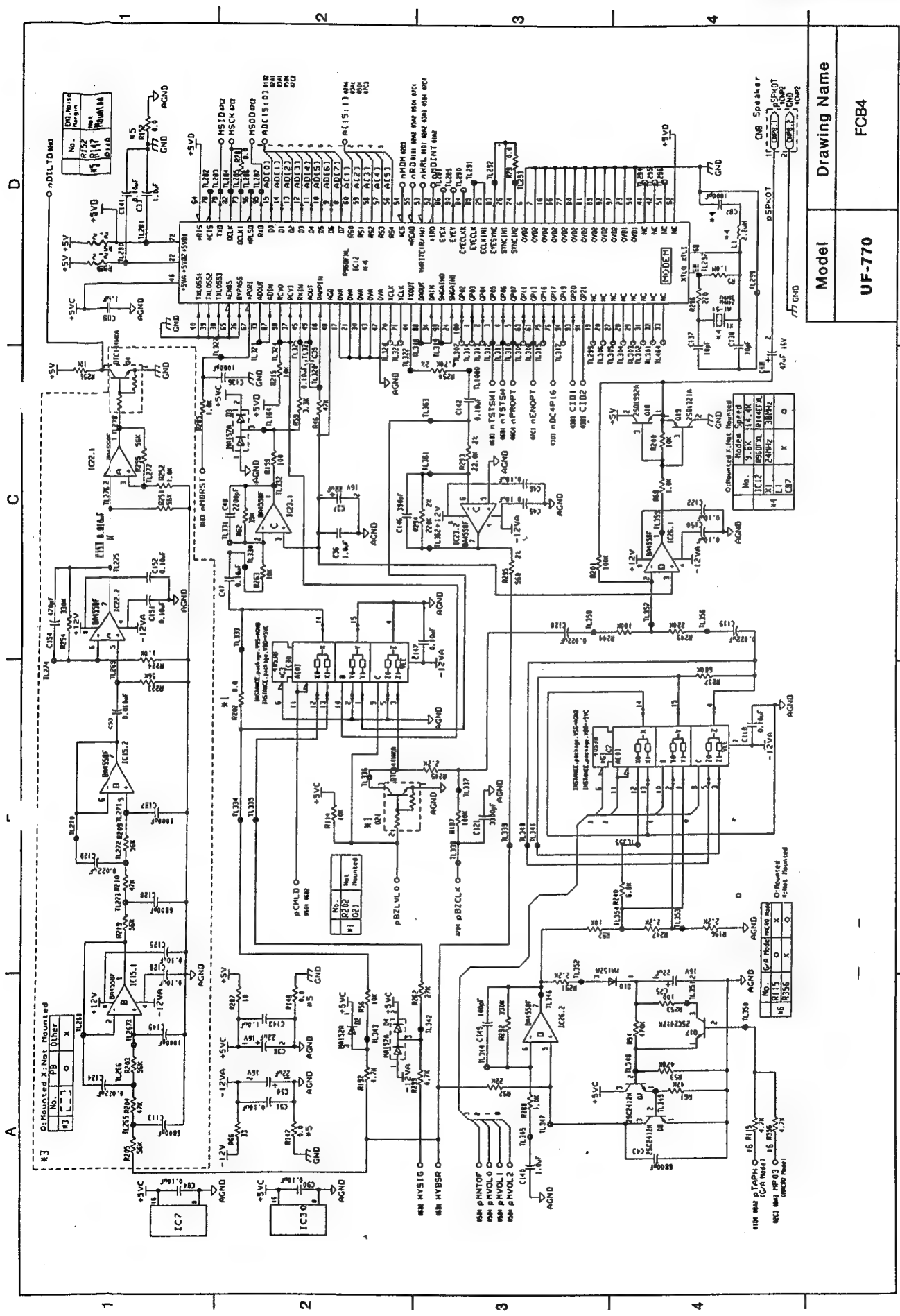


Model	Drawing Name
UF-770	FCB2

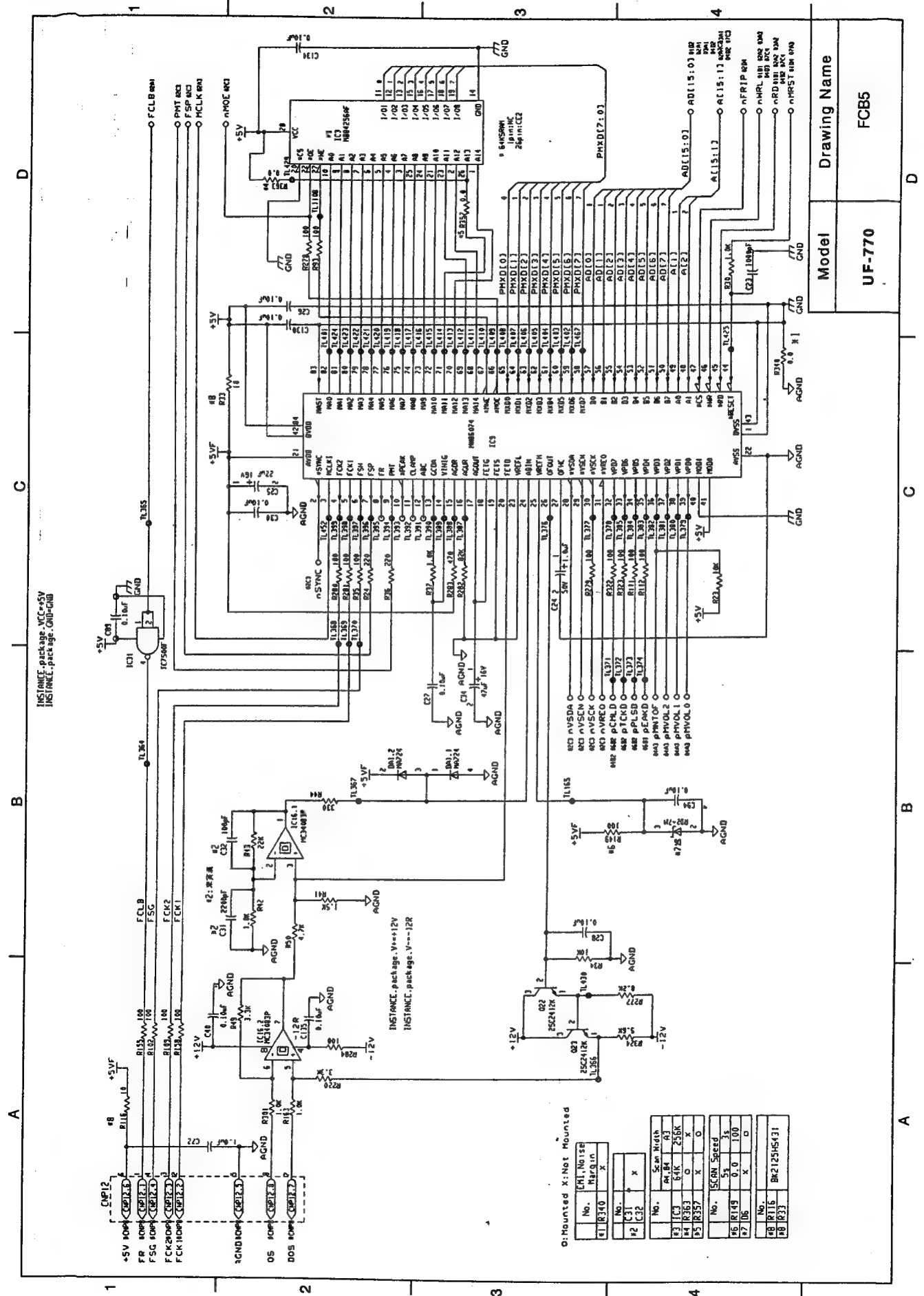




Model	Drawing Name
UF-770	FCB3



Model	Drawing Name
UF-770	FCB4



Drawing Name

FCB5

Model

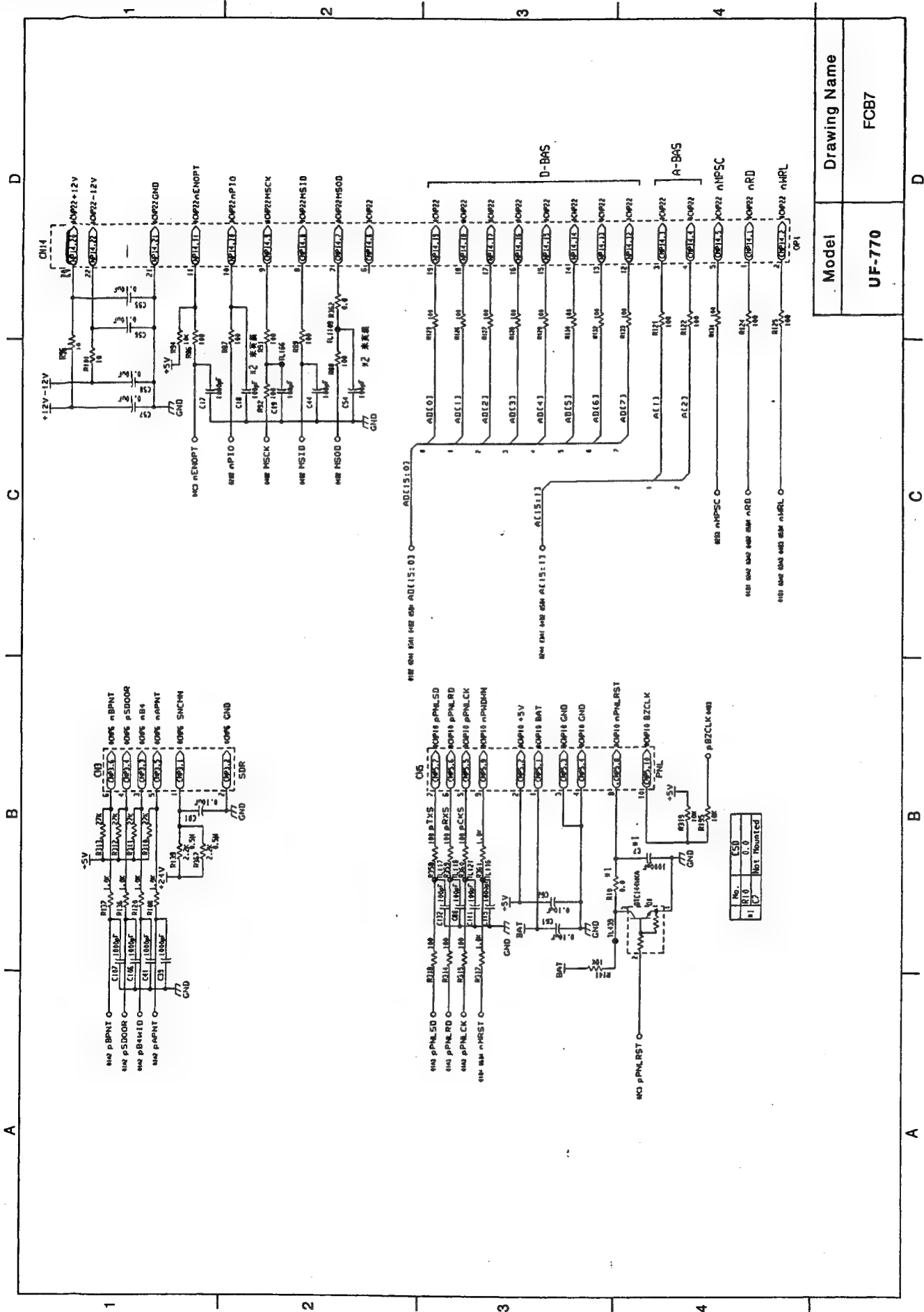
UF-770



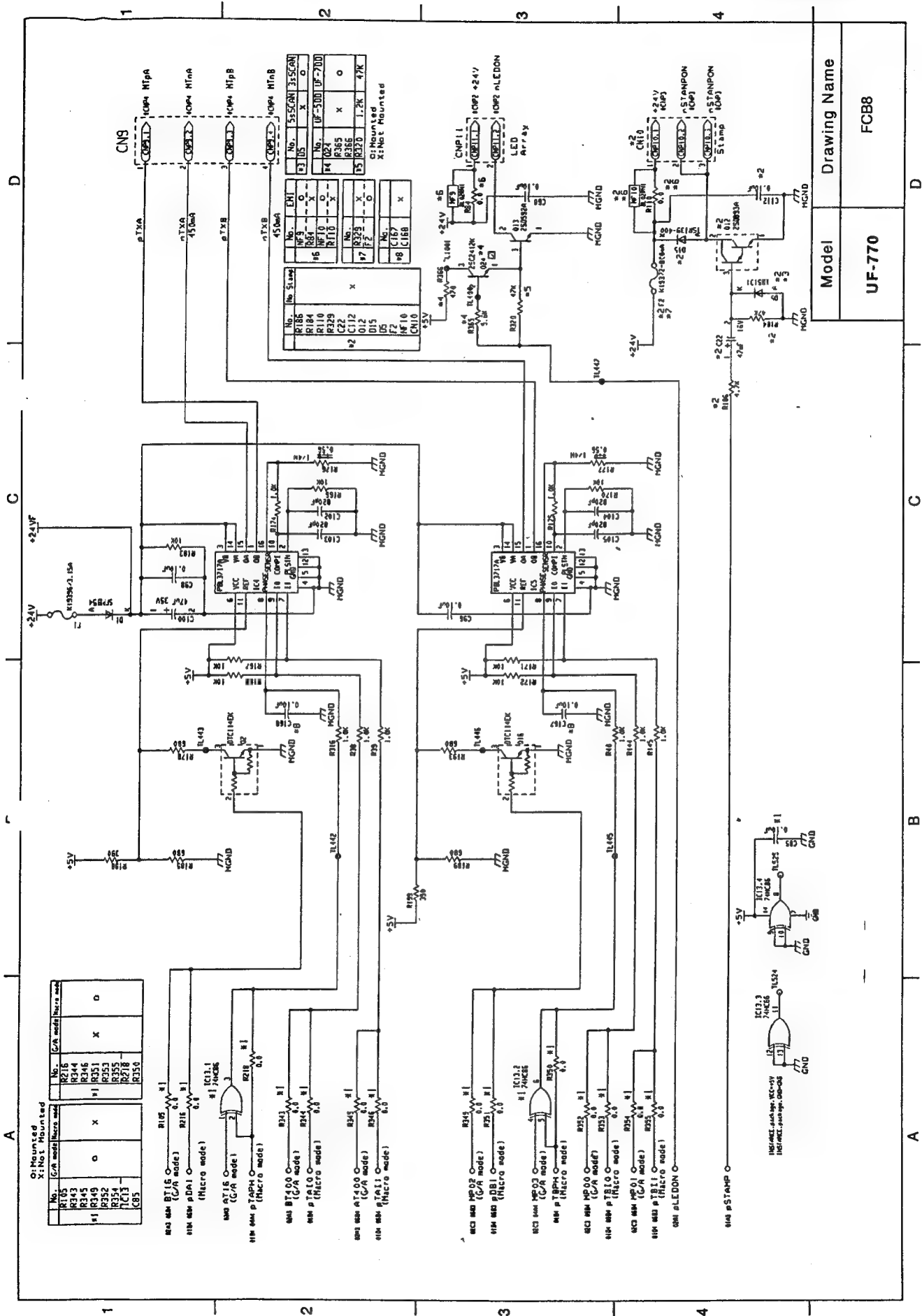
No.	[H]
1	x

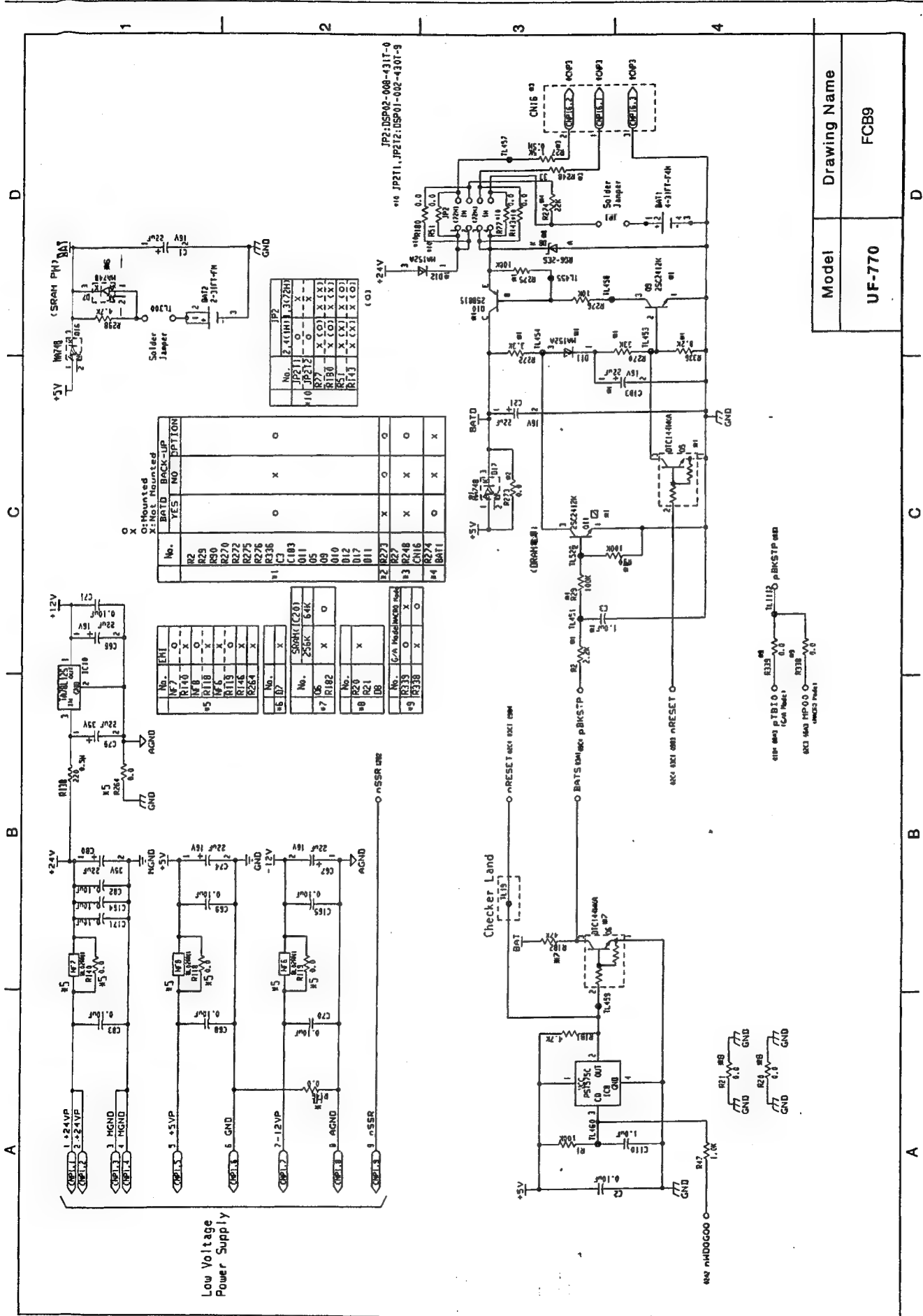
No.	G/A Mode	MEMO Mode
R334		
R337	x	o
R370		
R372		
R331		
R335		x
R371	o	
R369		

<b>Model</b>	<b>Drawing Name</b>
<b>UF-770</b>	<b>FCB6</b>

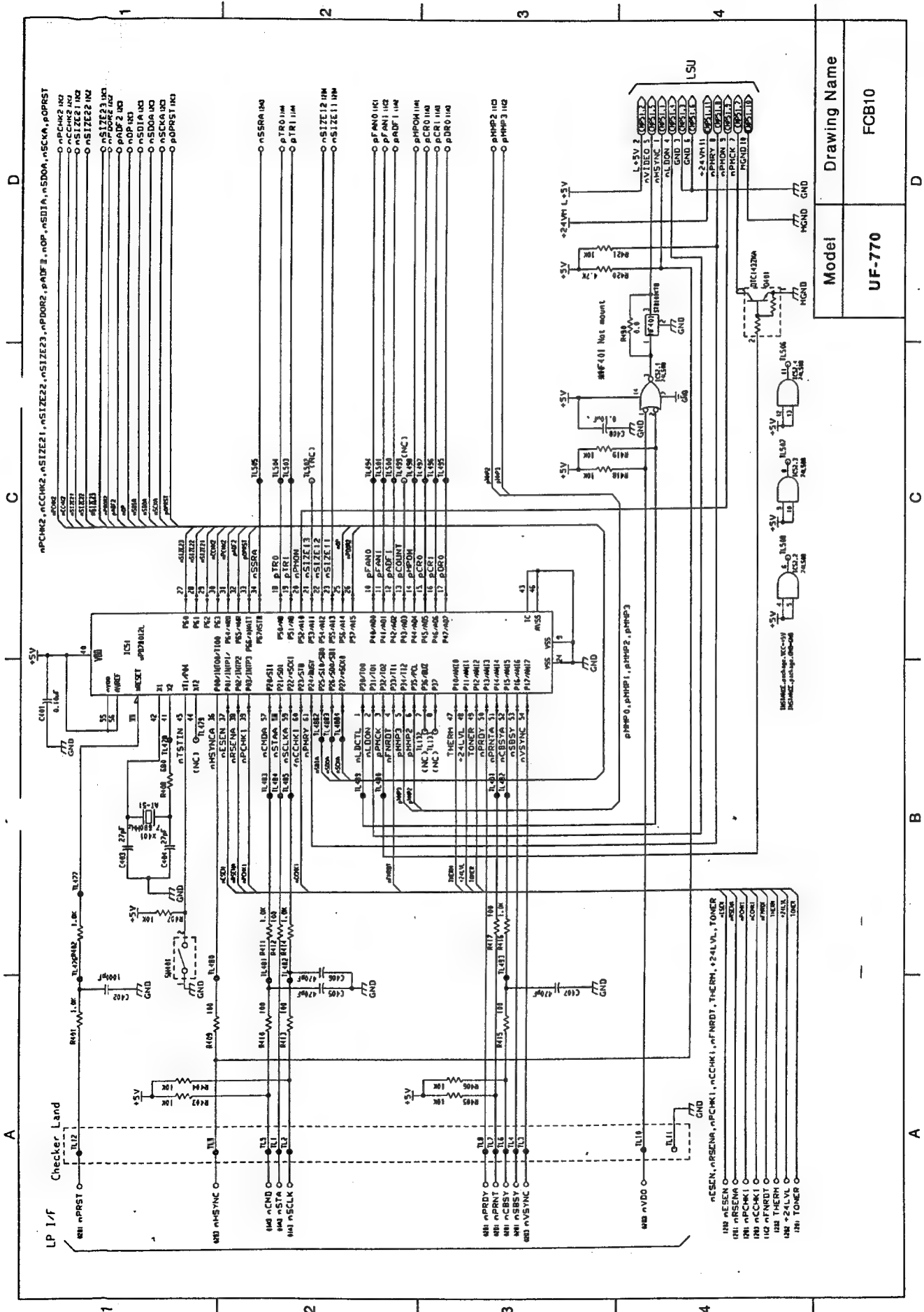


Model	Drawing Name
UF-770	FCB7

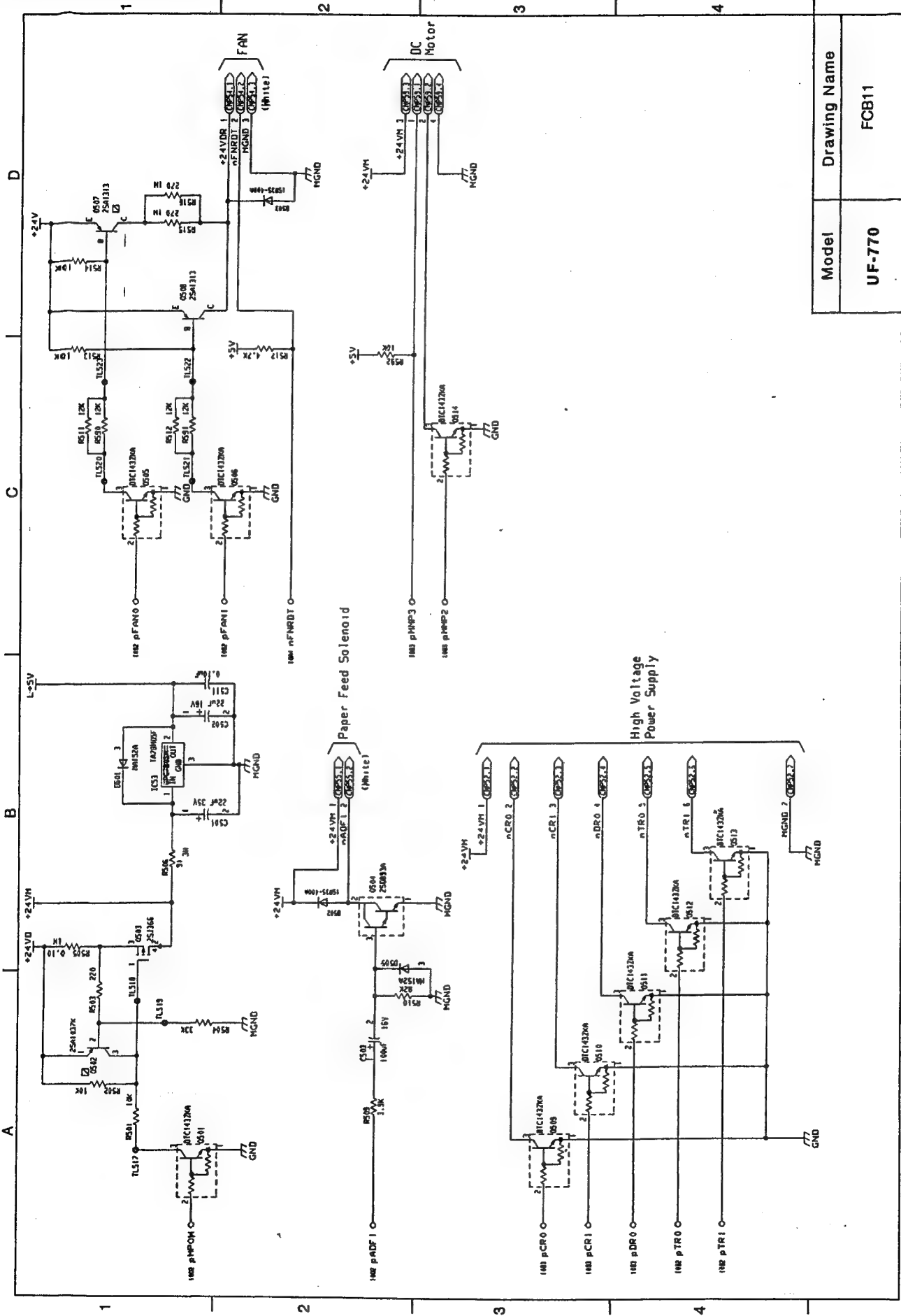




Model	Drawing Name
UF-770	FCB9

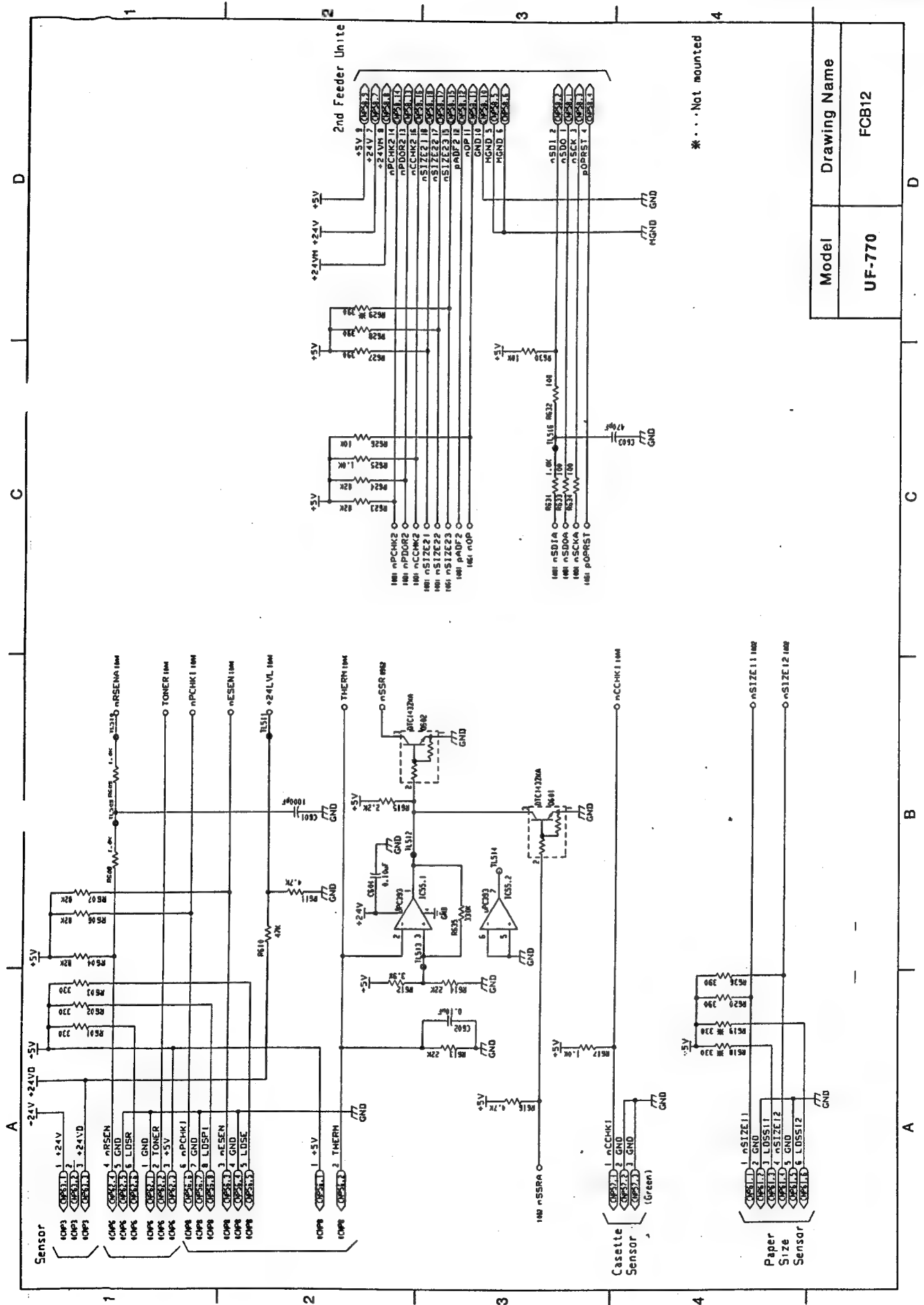


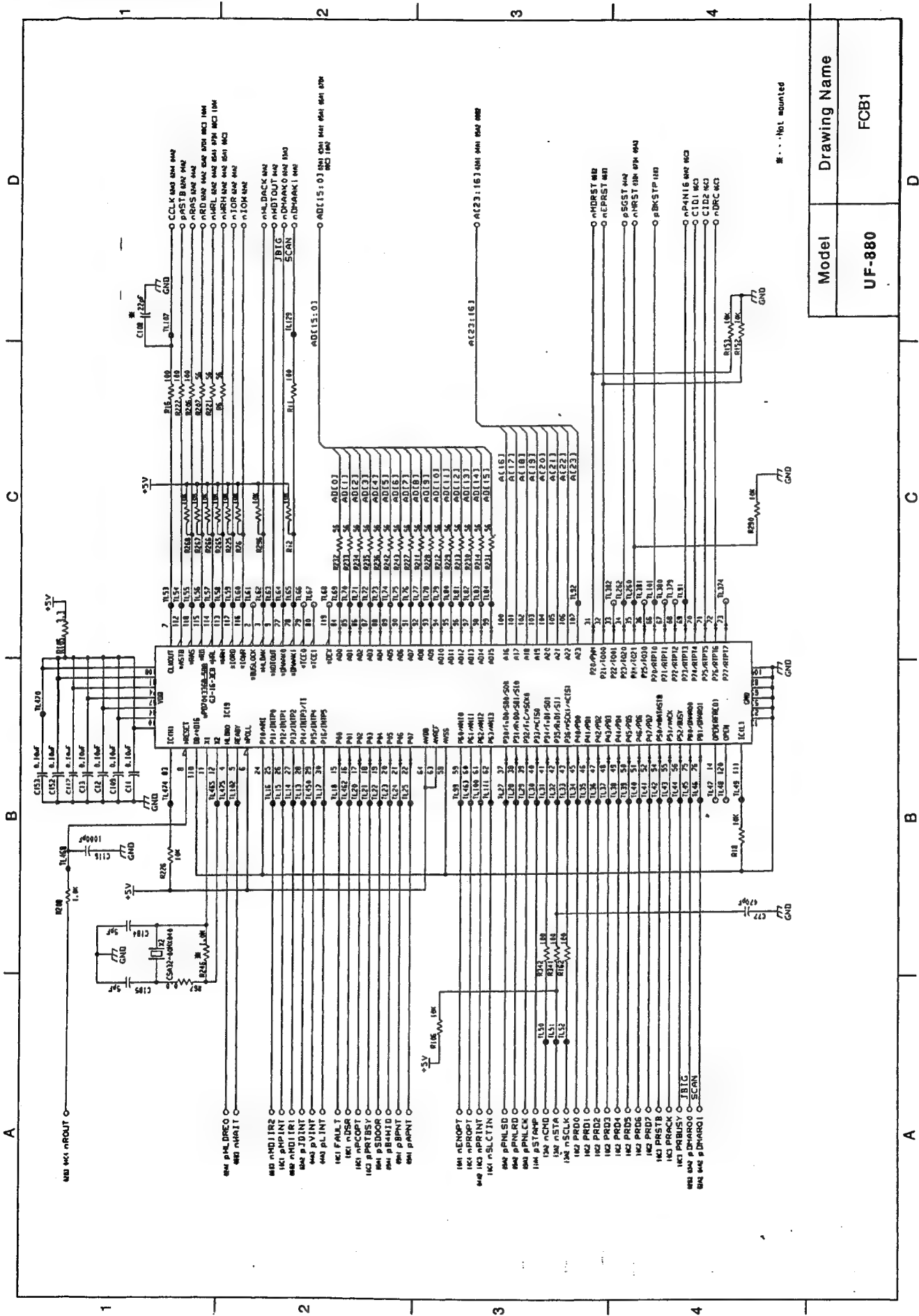




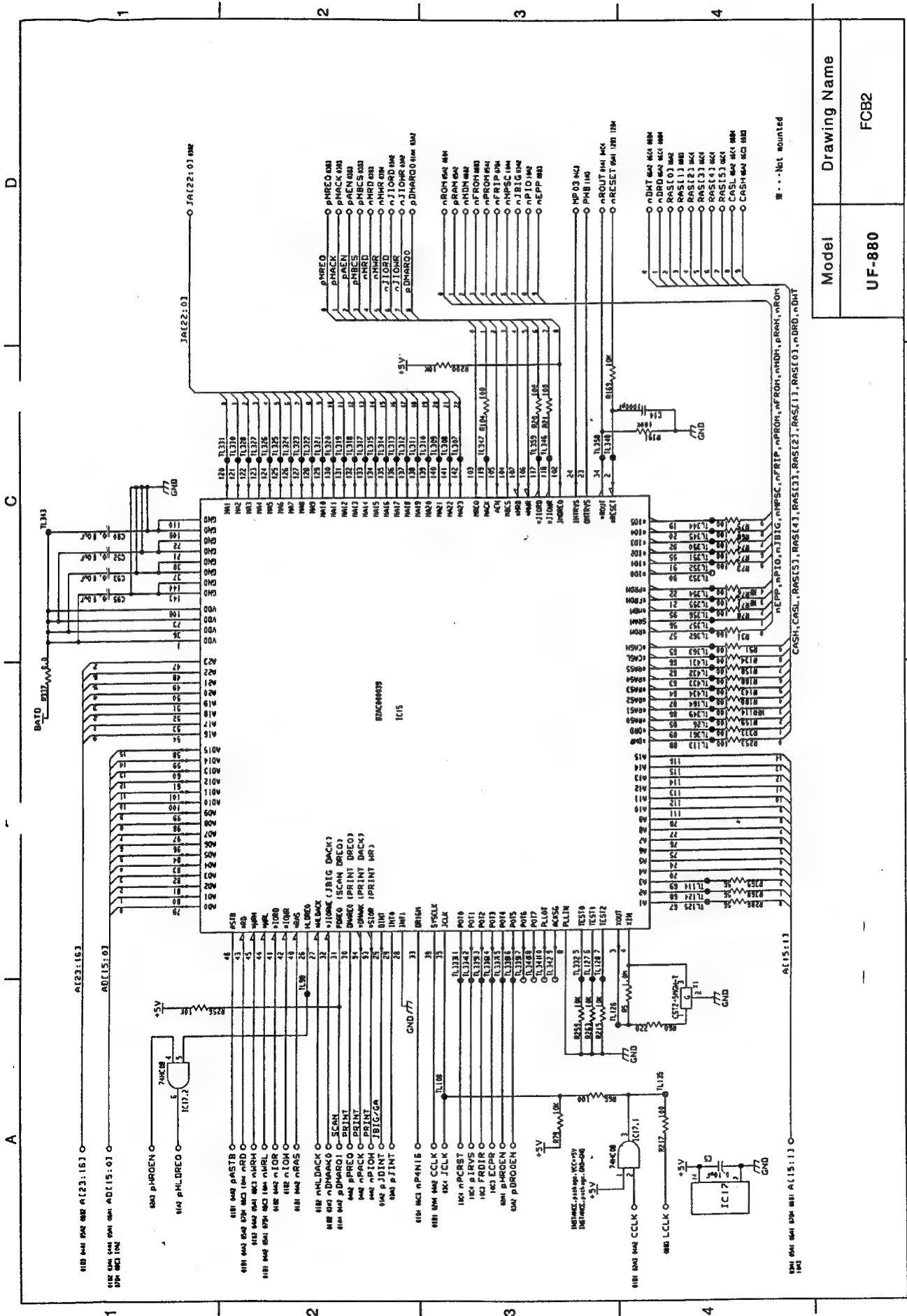
Model	Drawing Name
UF-770	FCB11

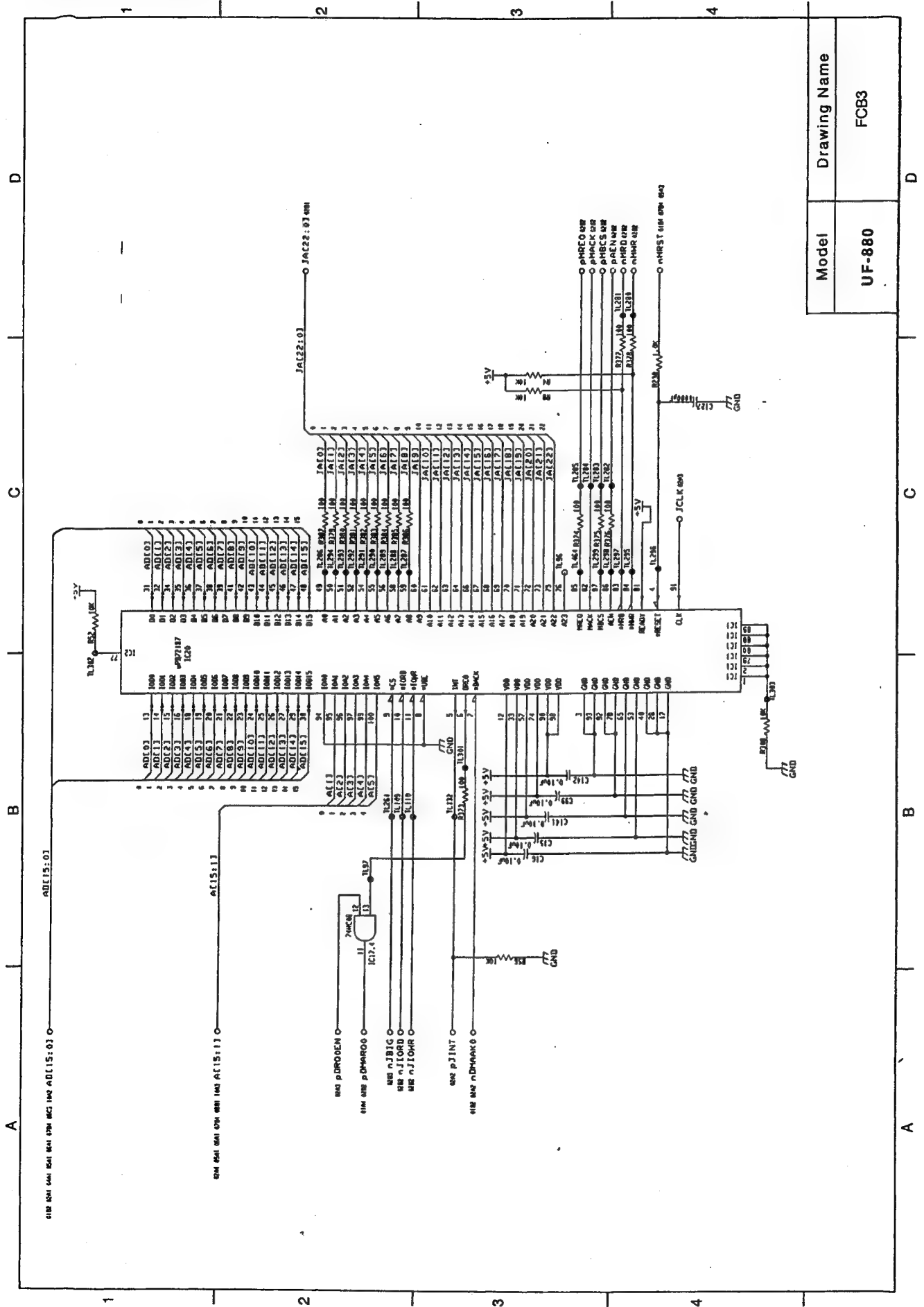
# Schematic Diagram





# Schematic Diagram





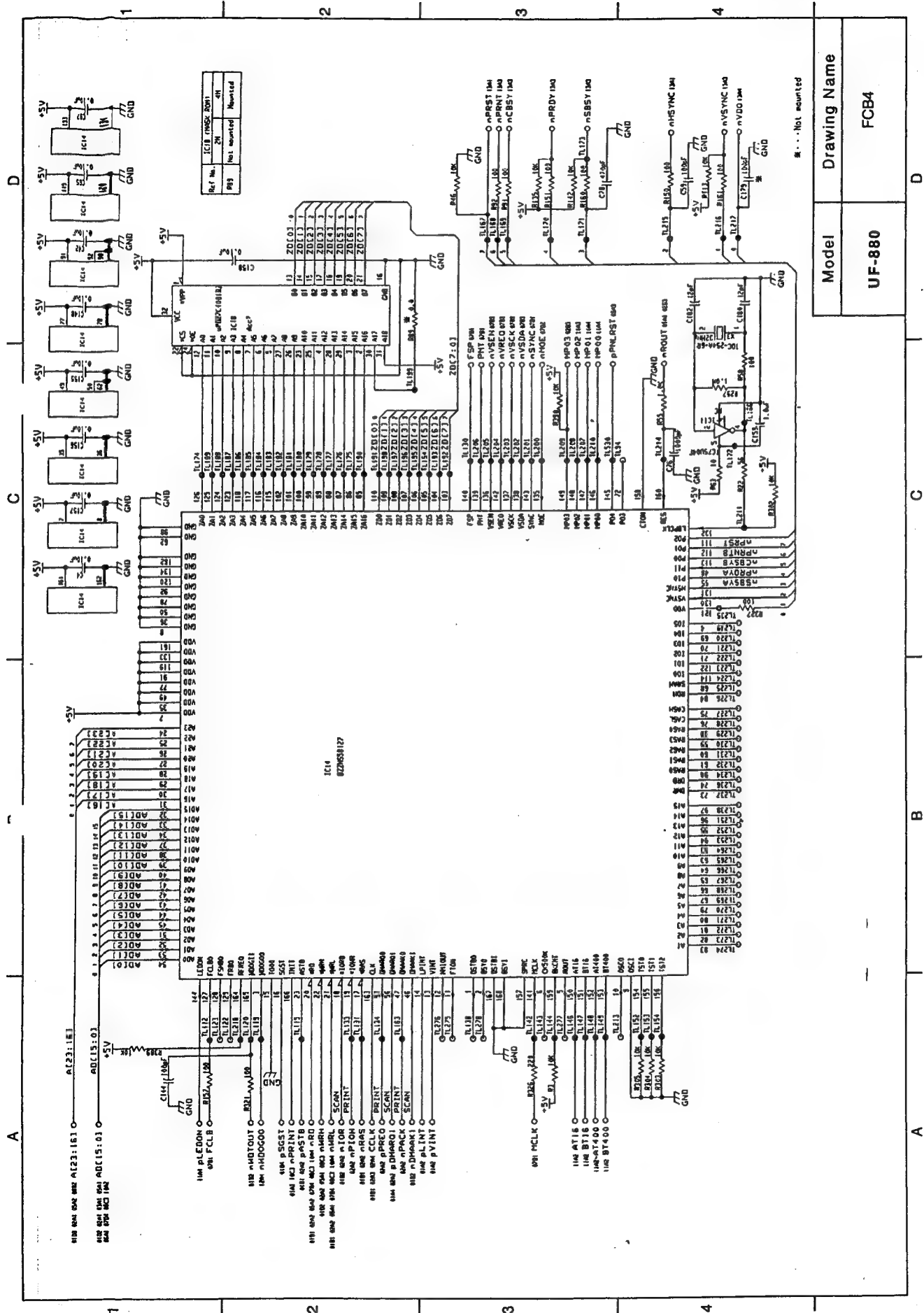
Model

UF-880

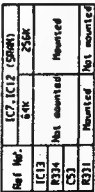
Drawing Name

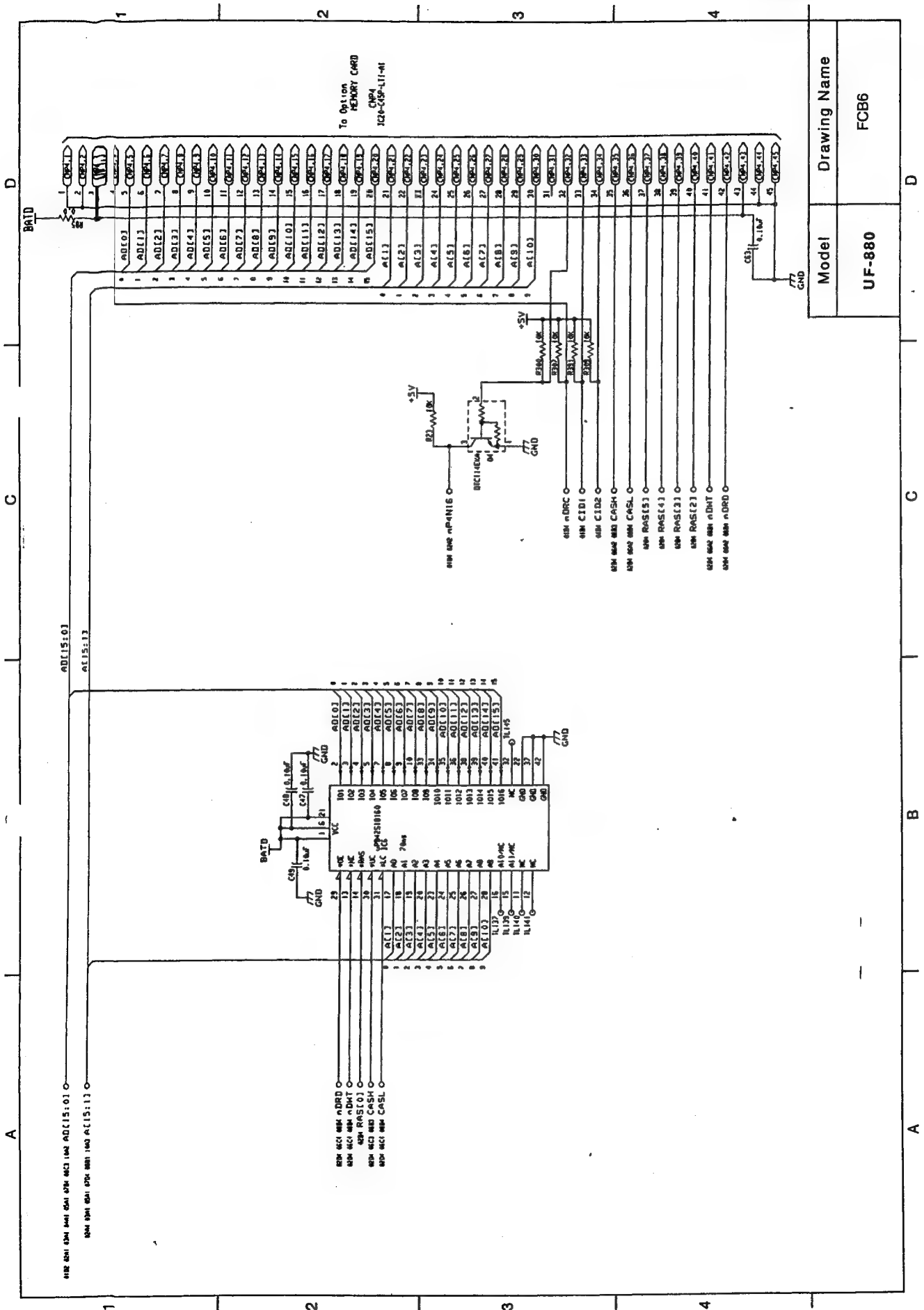
FCB3

# Schematic Diagram

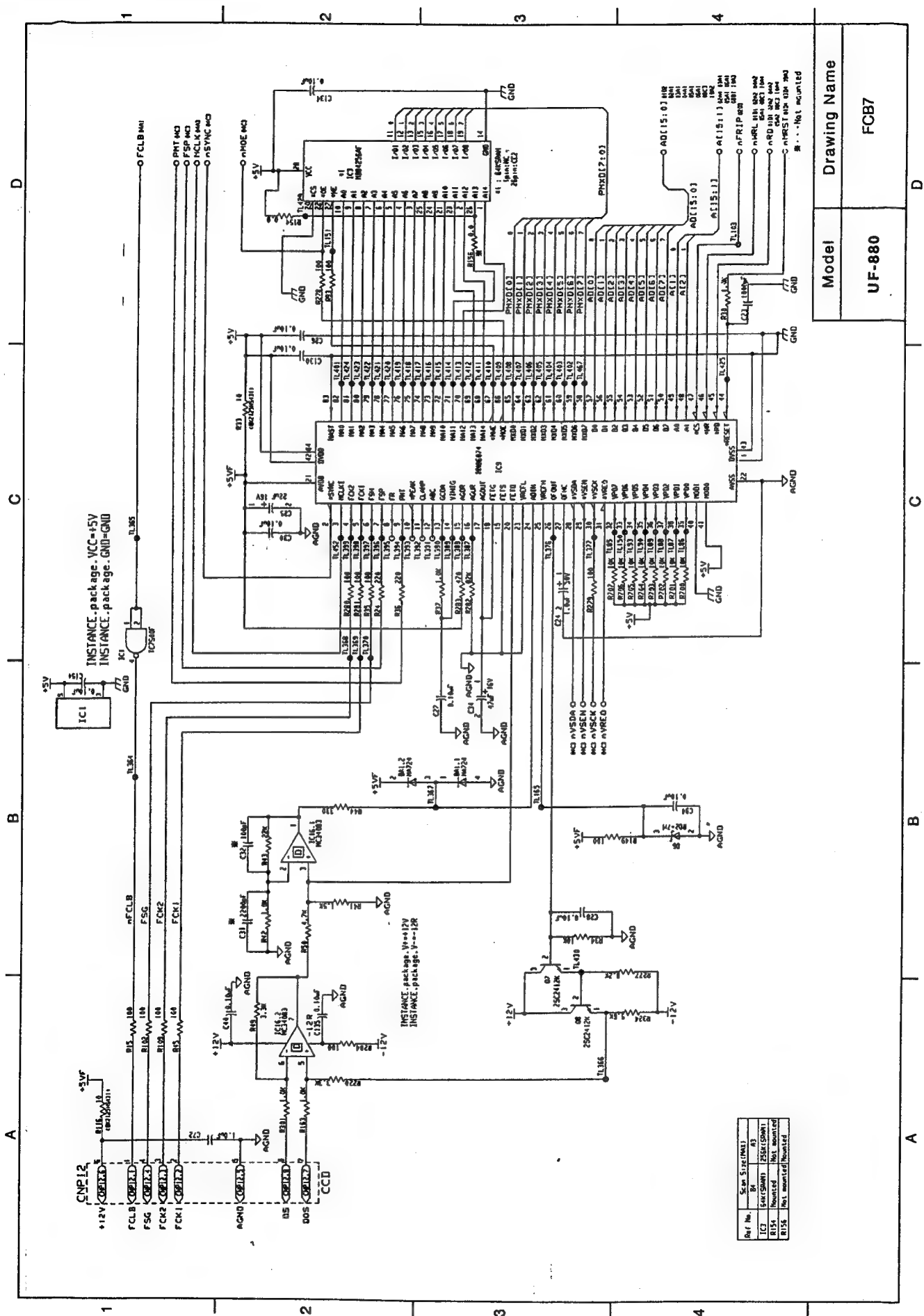


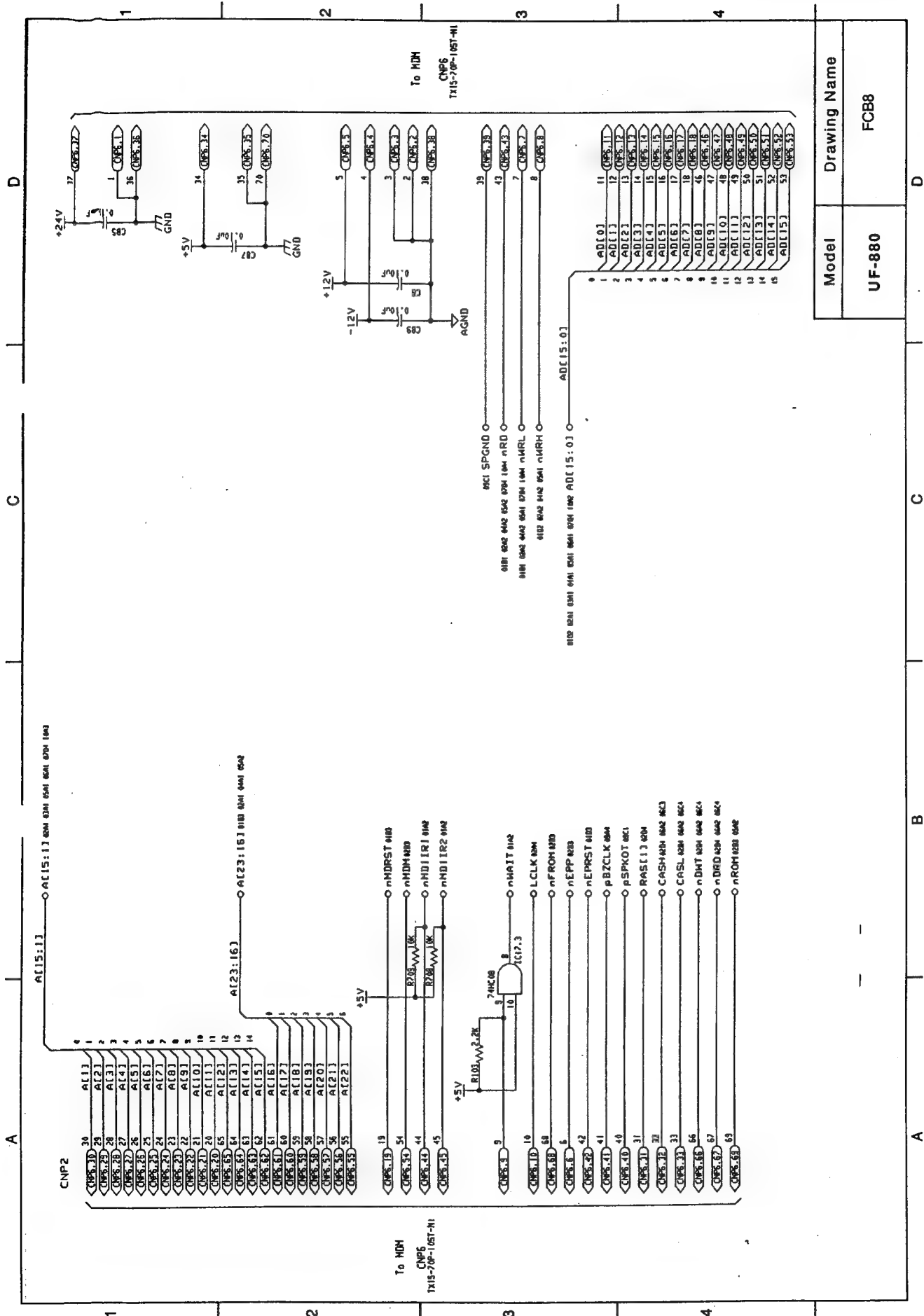
Model	Drawing Name
UF-880	FCB4



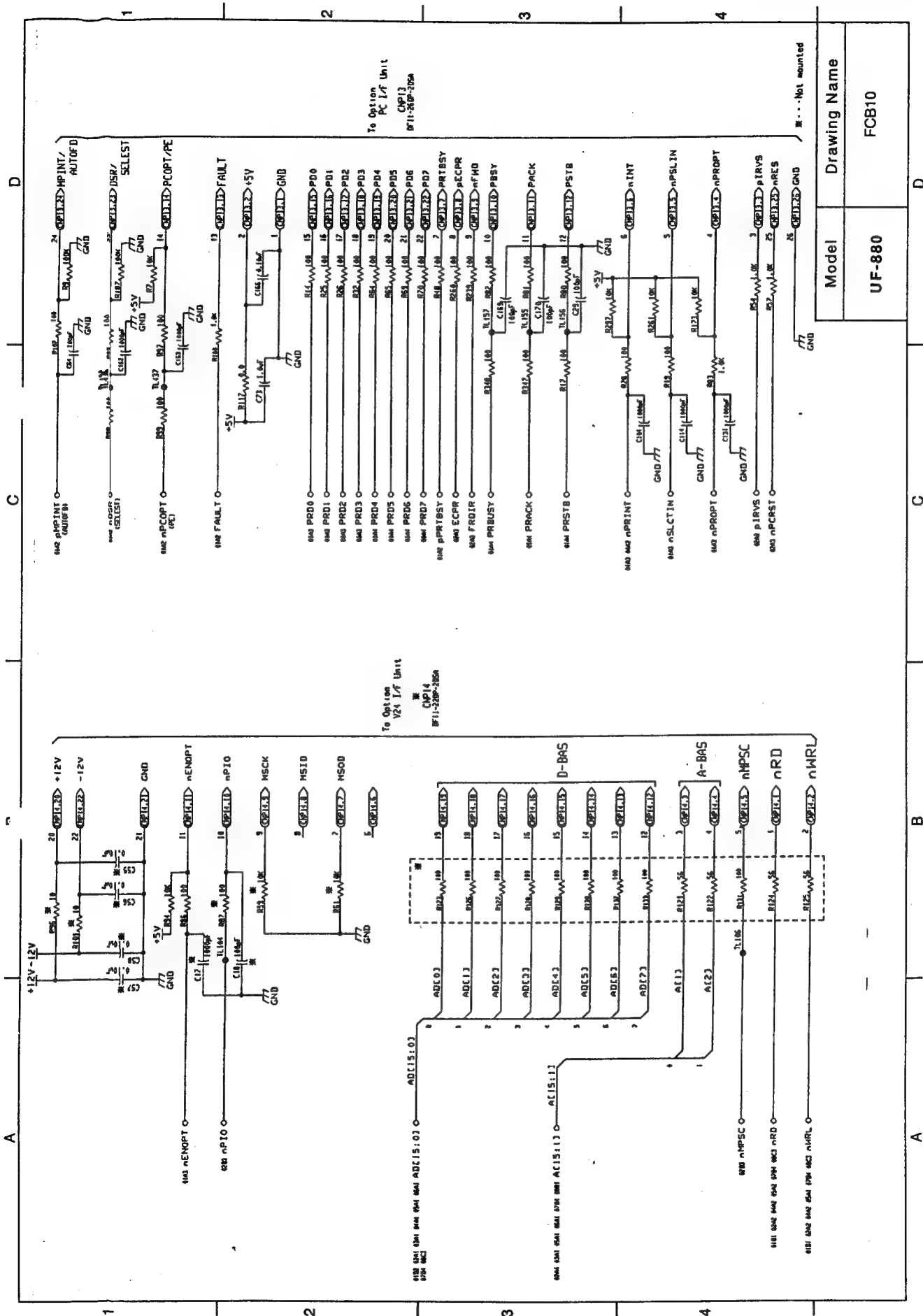


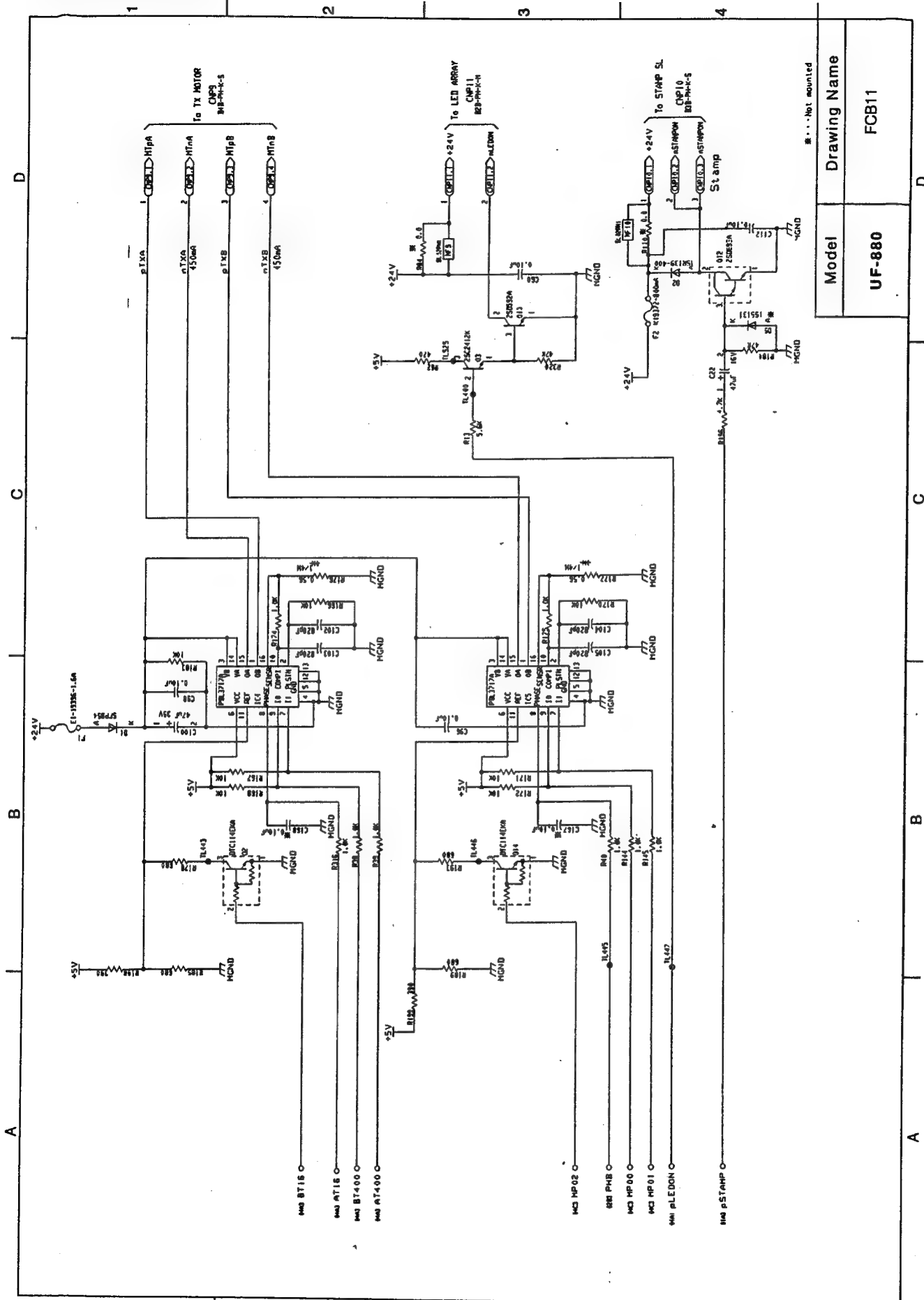




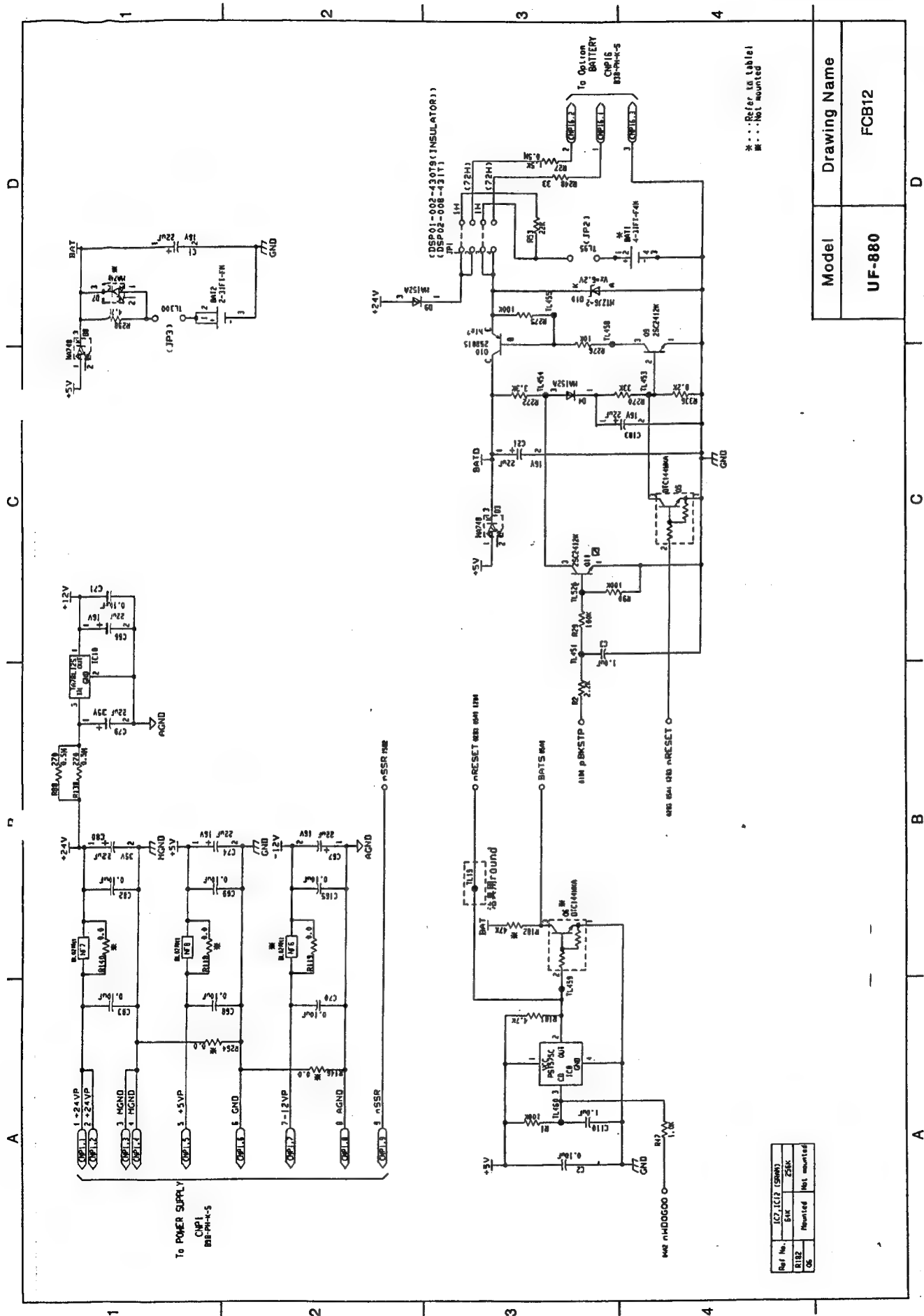


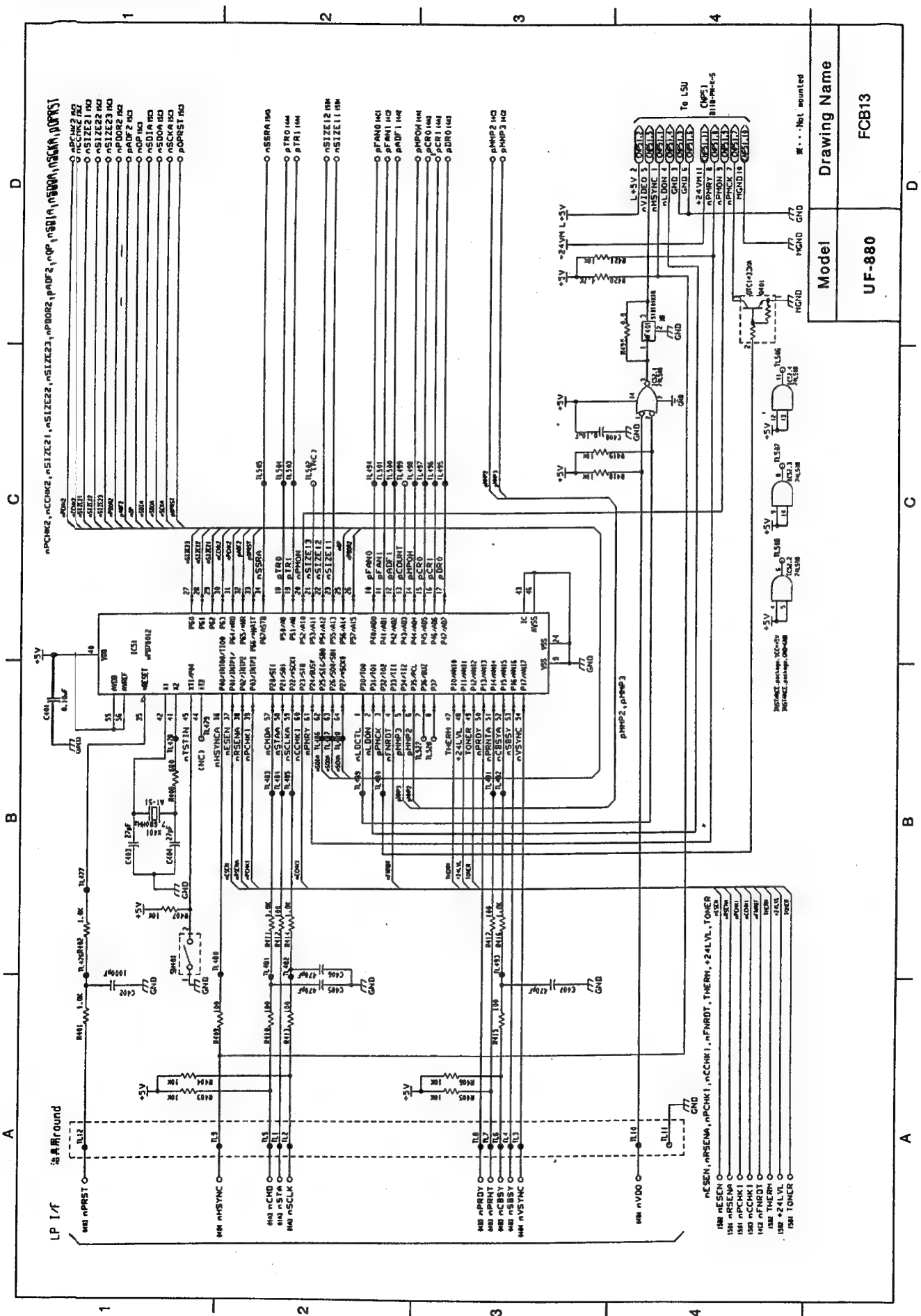




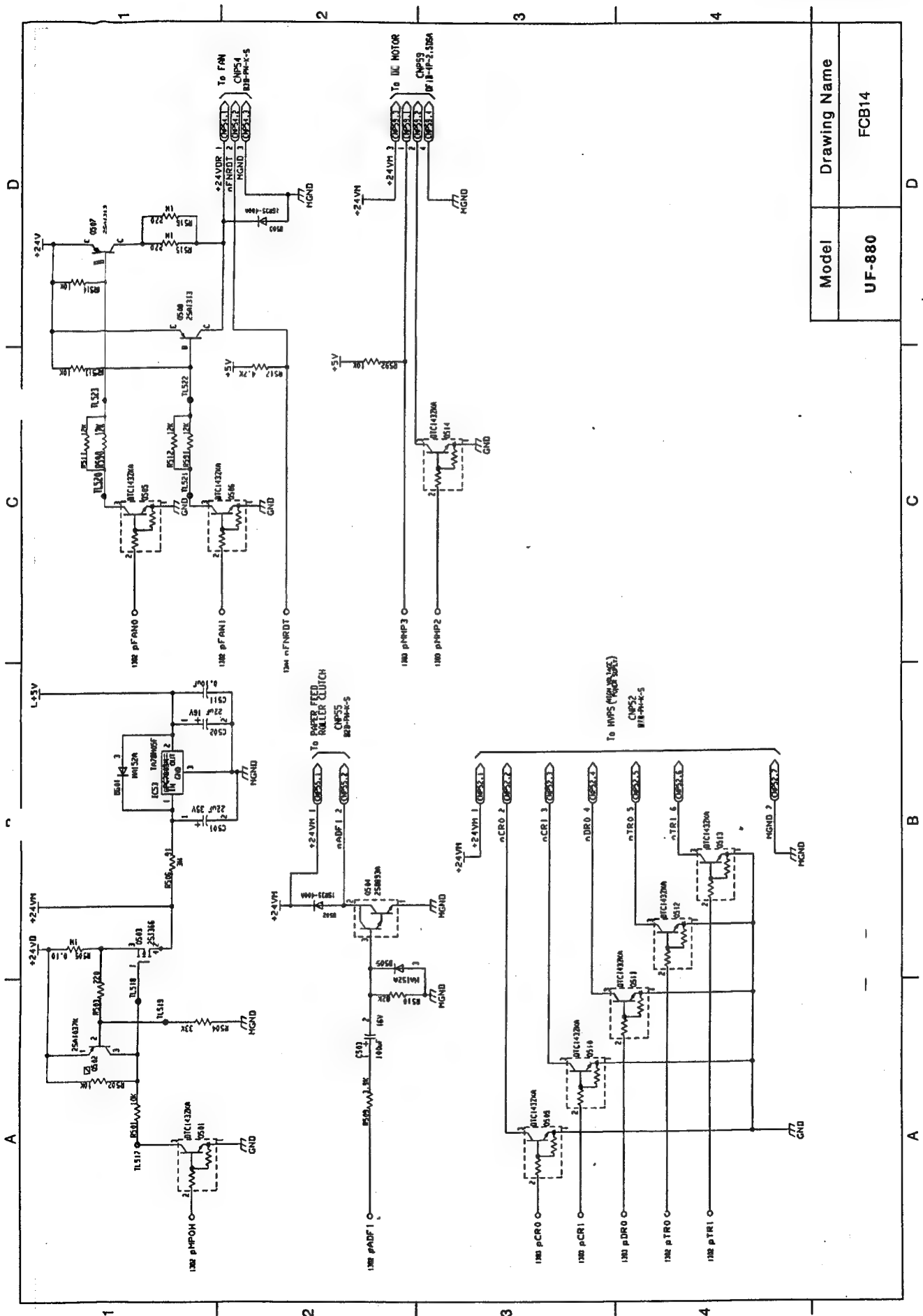


# Schematic Diagram



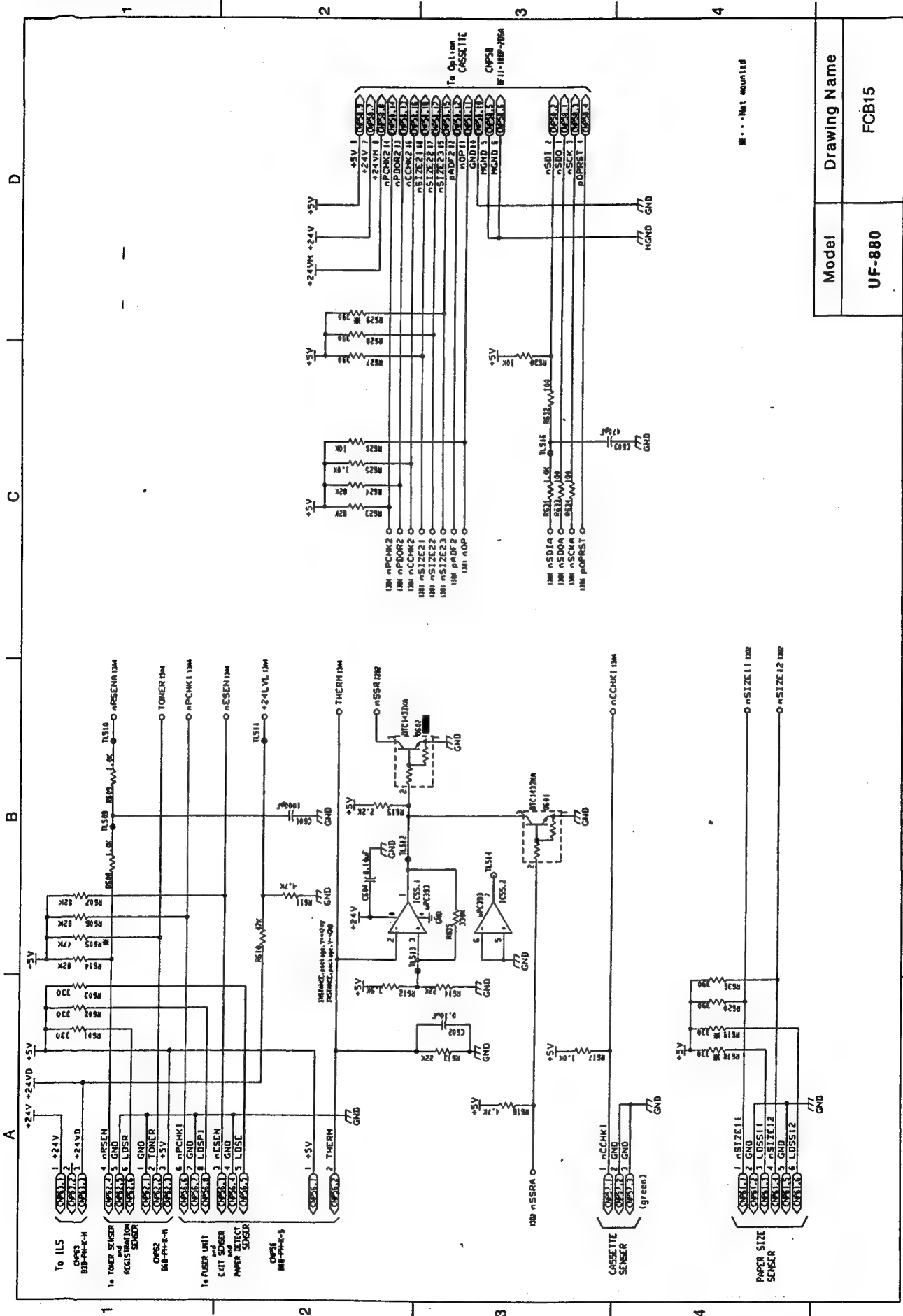


# Schematic Diagram

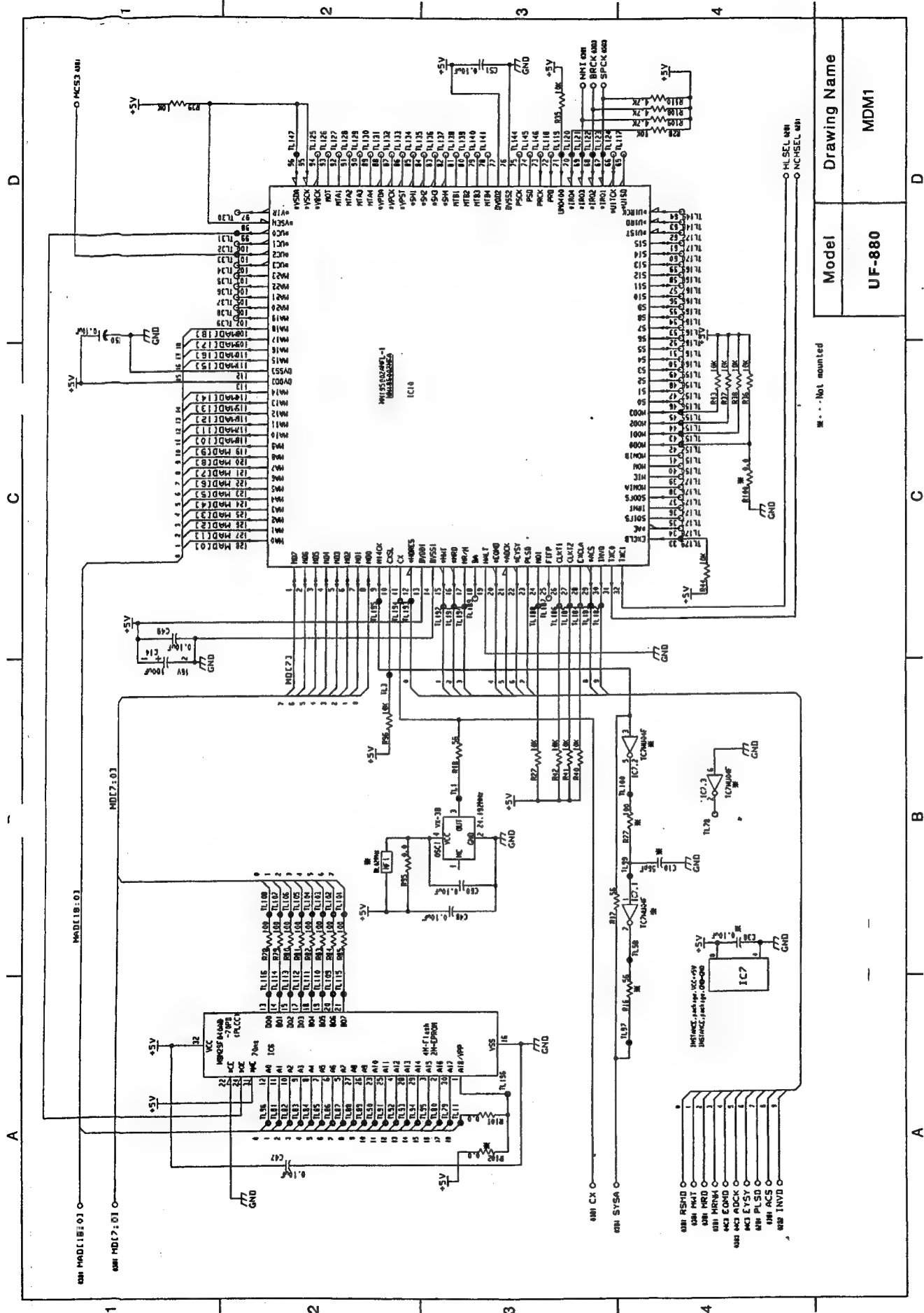


Model	Drawing Name
UF-880	FCB14

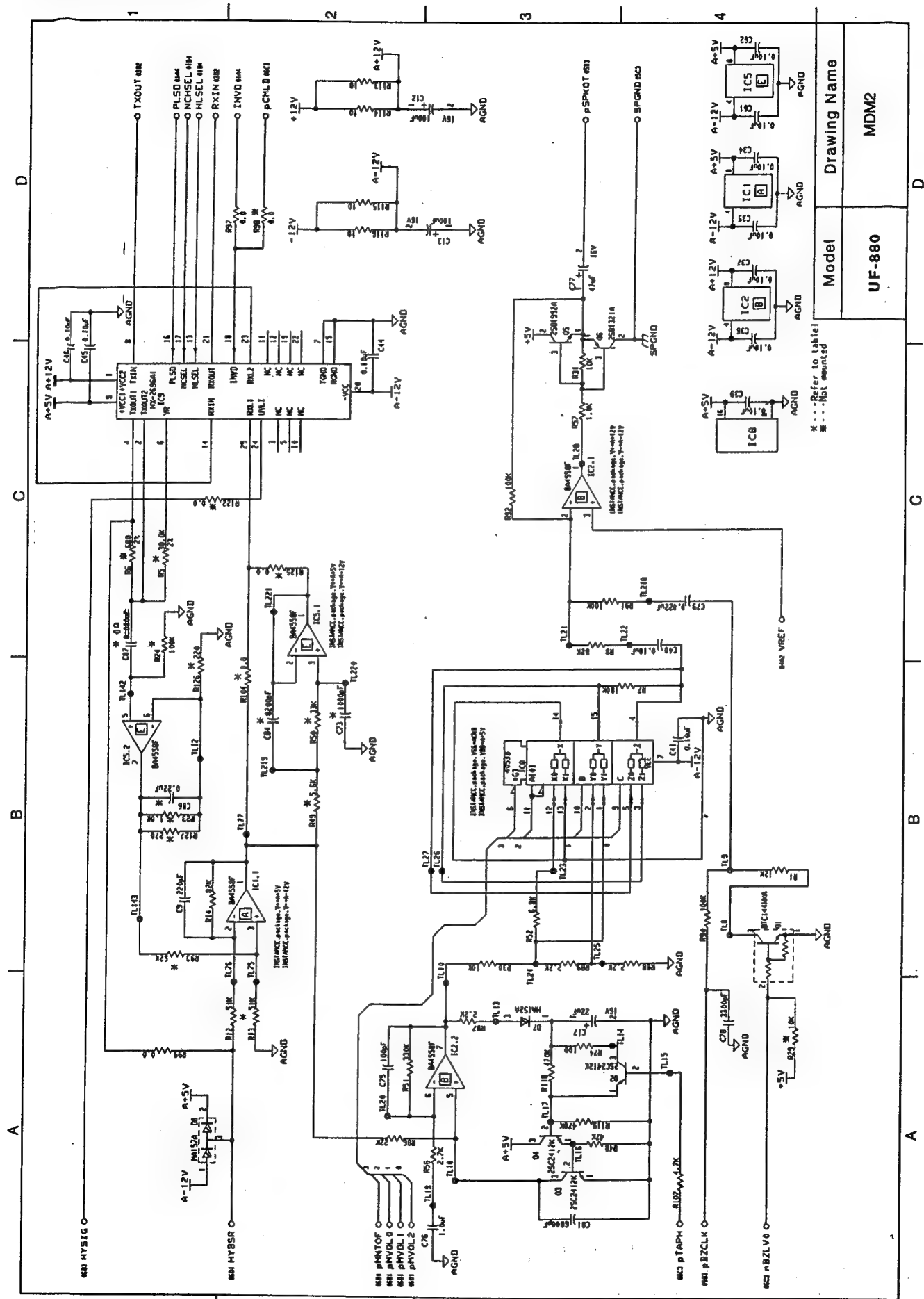


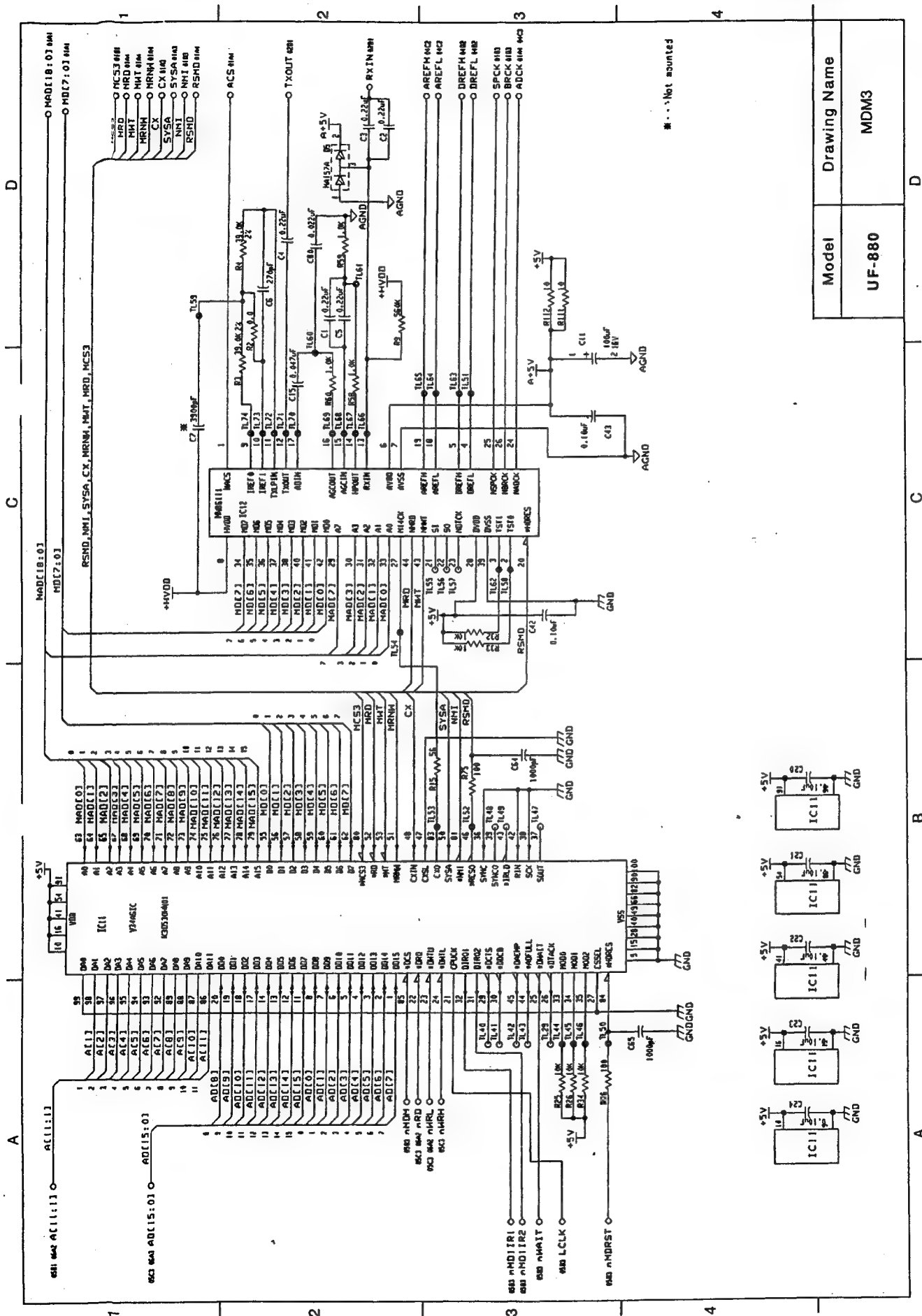


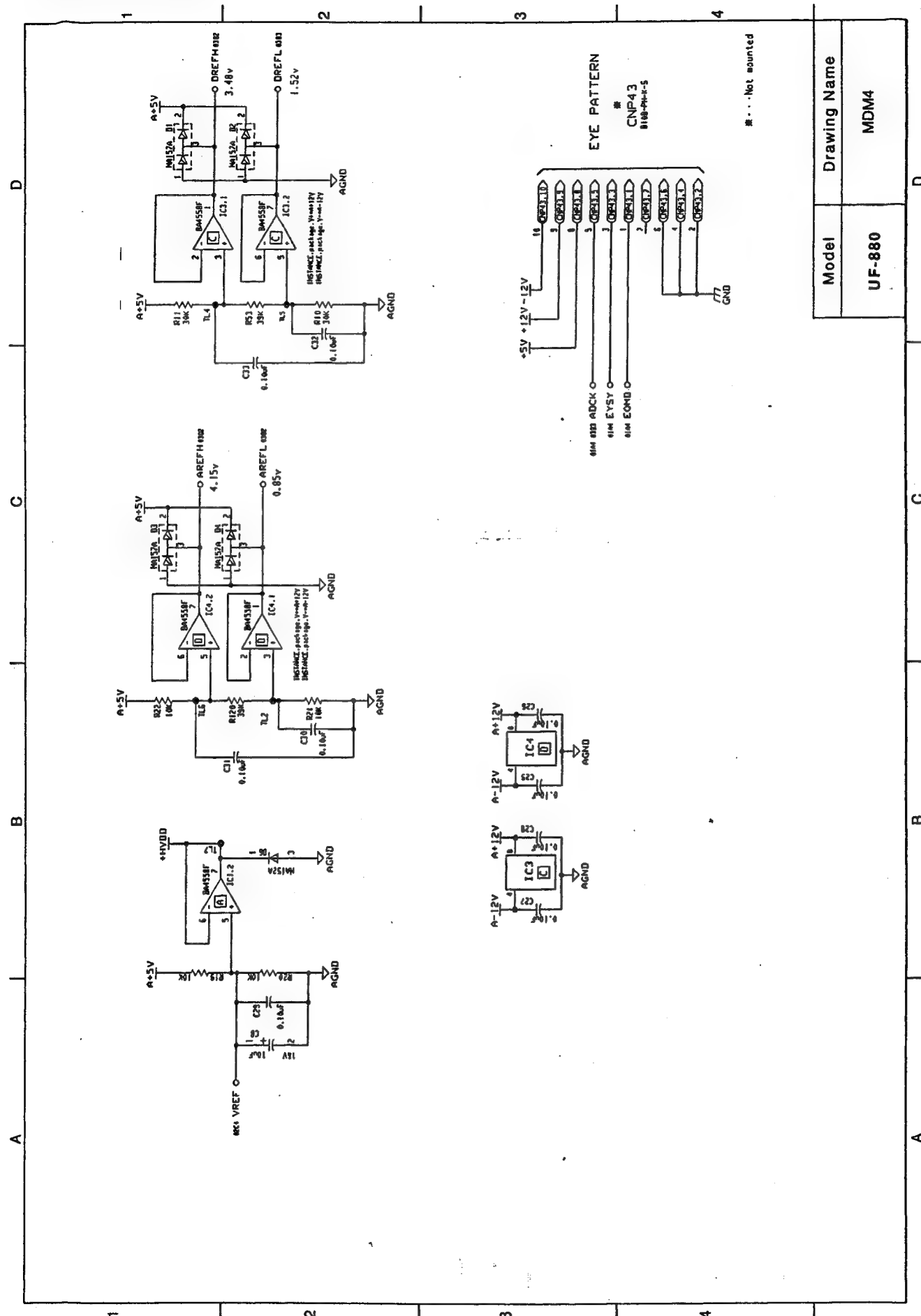
# Schematic Diagram



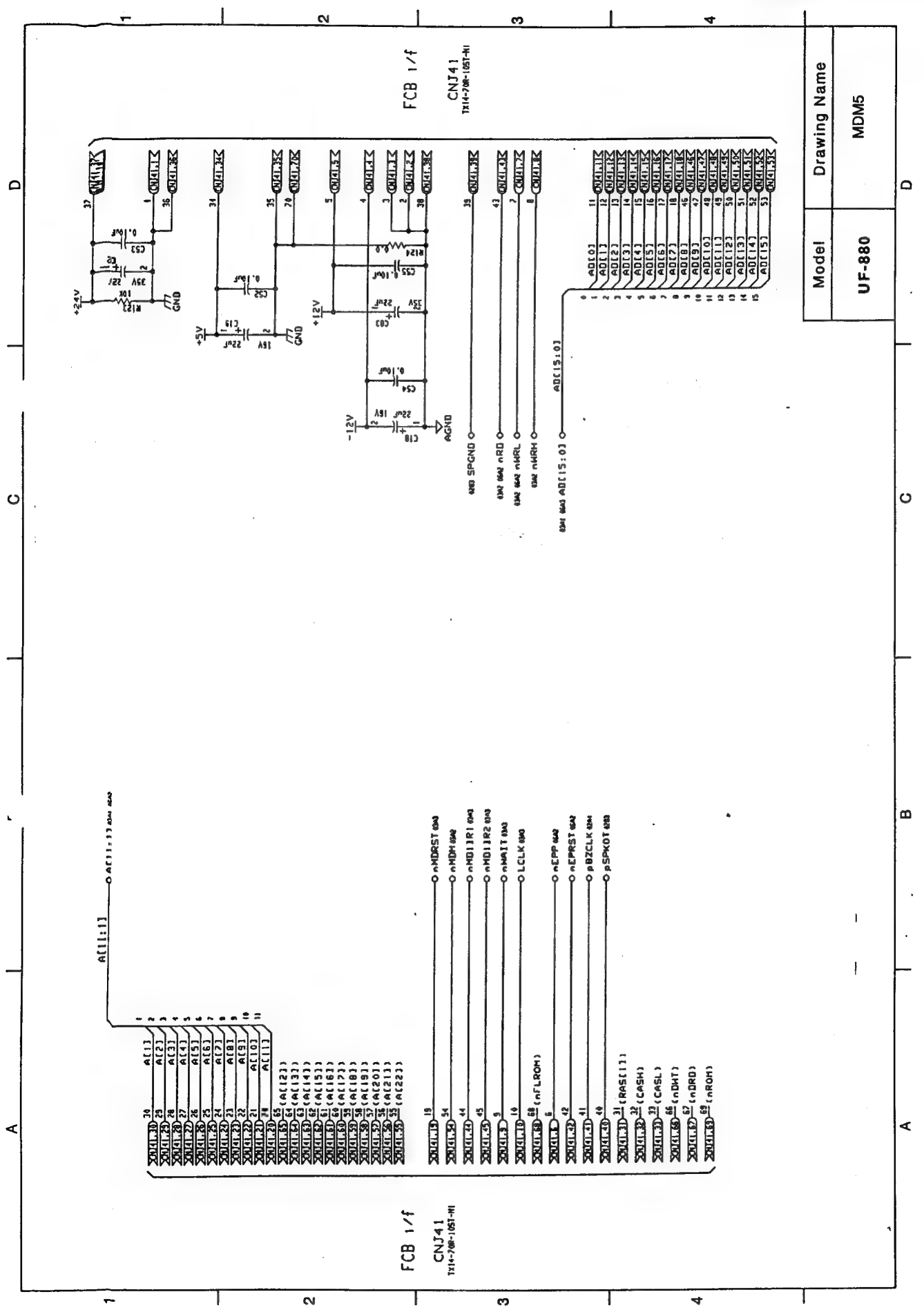
Model	Drawing Name
UF-880	MDM1

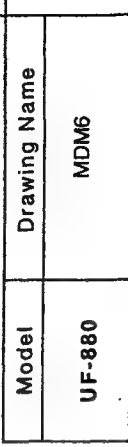


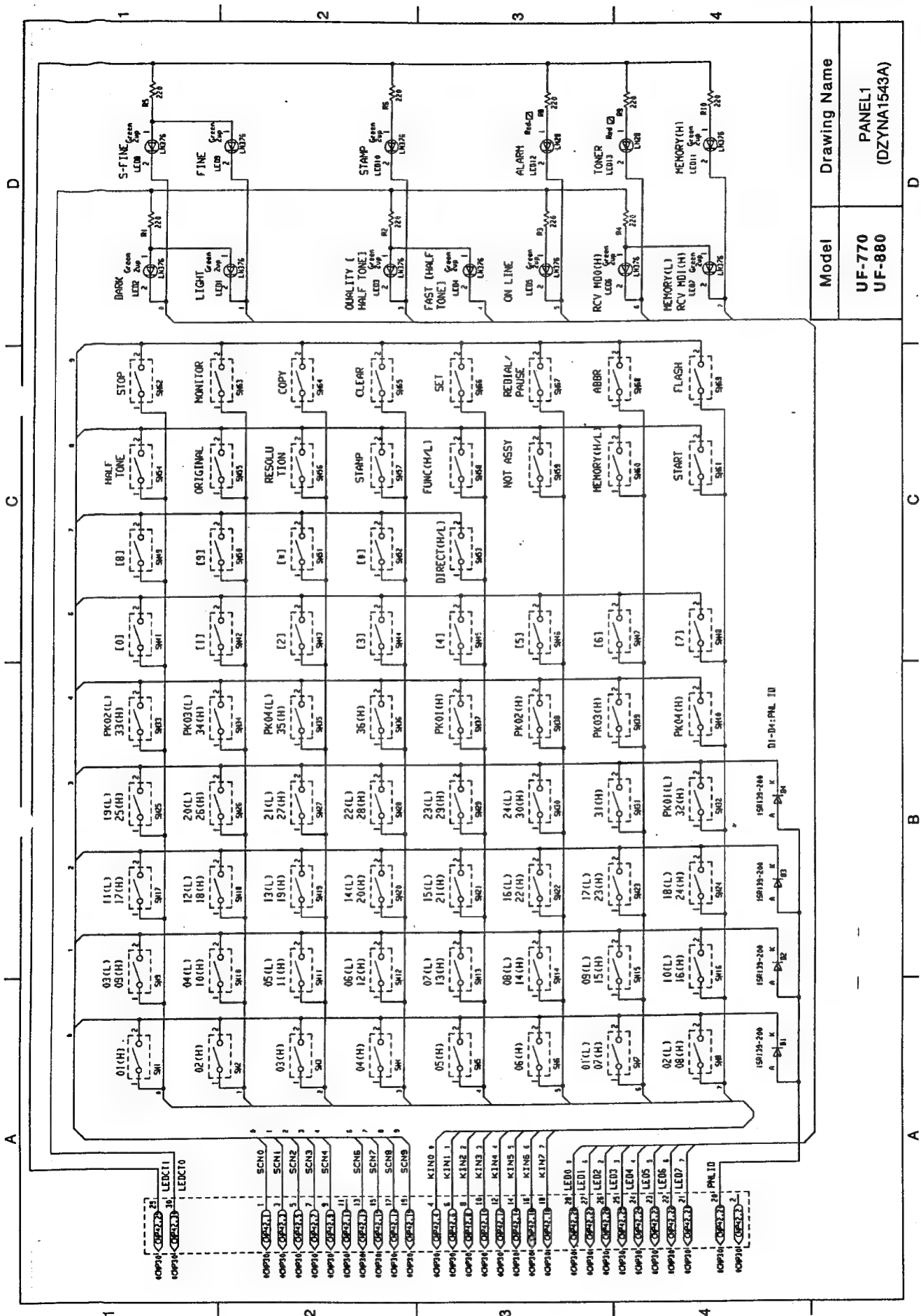




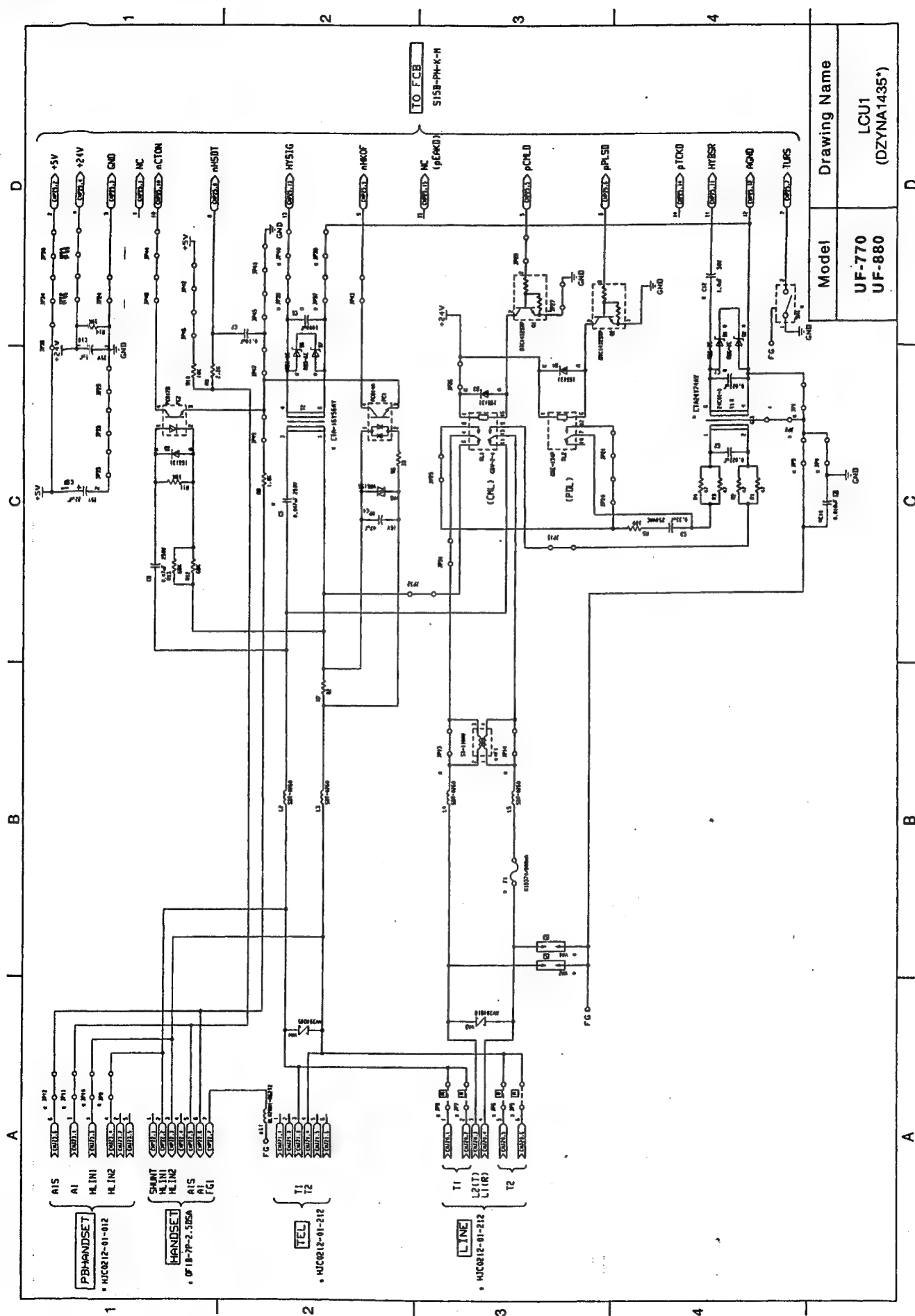
Model	Drawing Name
UF-880	MDM4

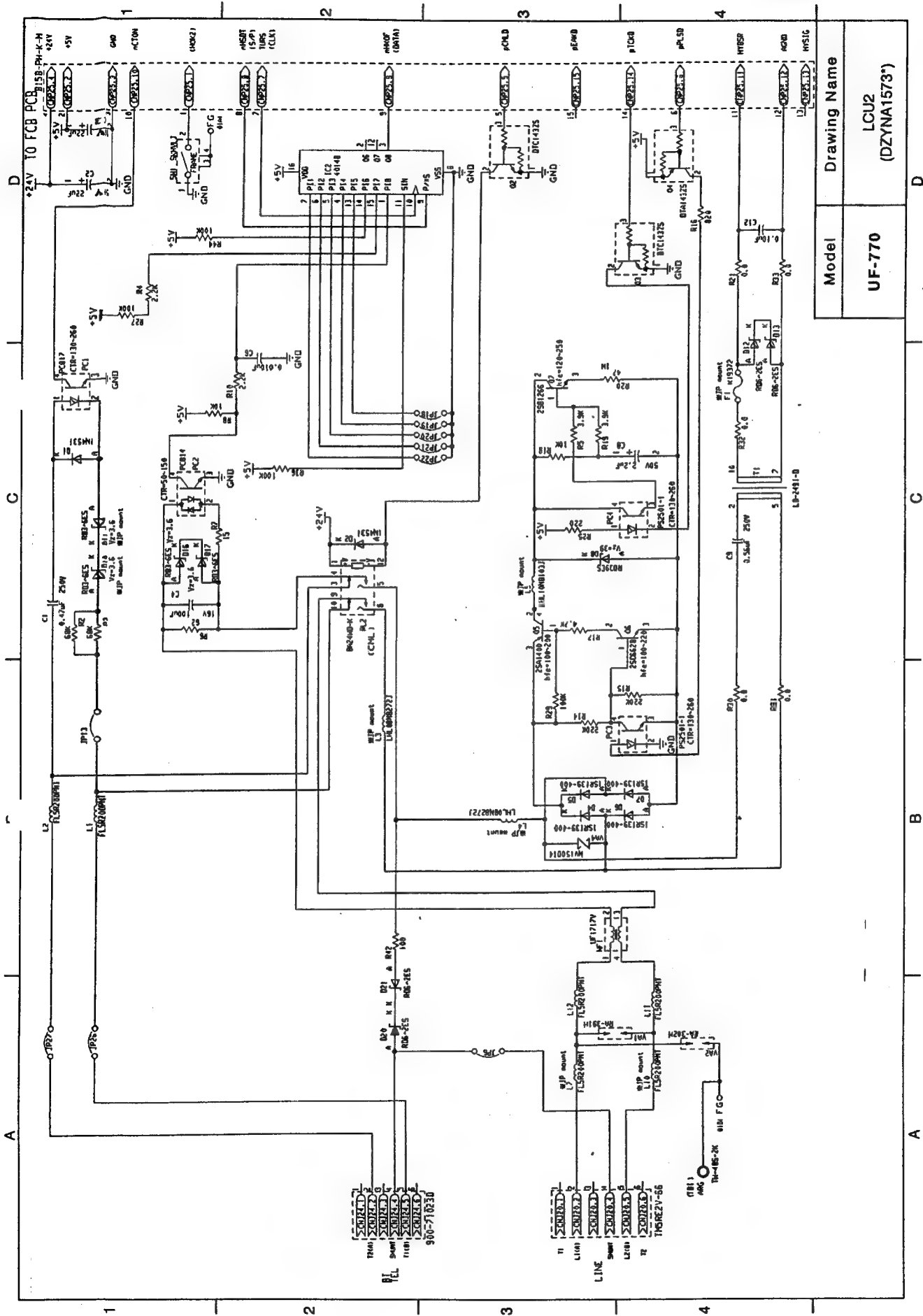


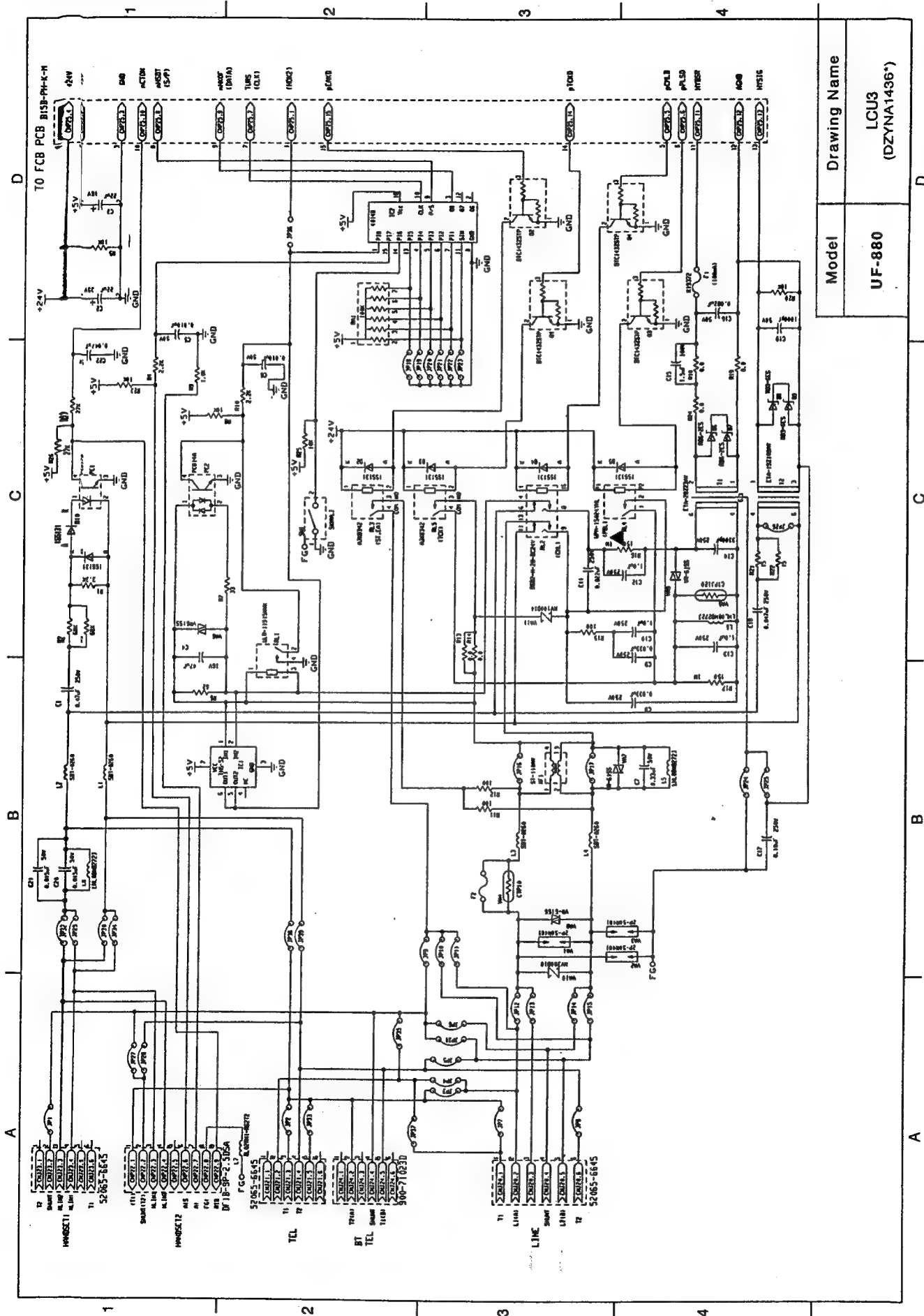






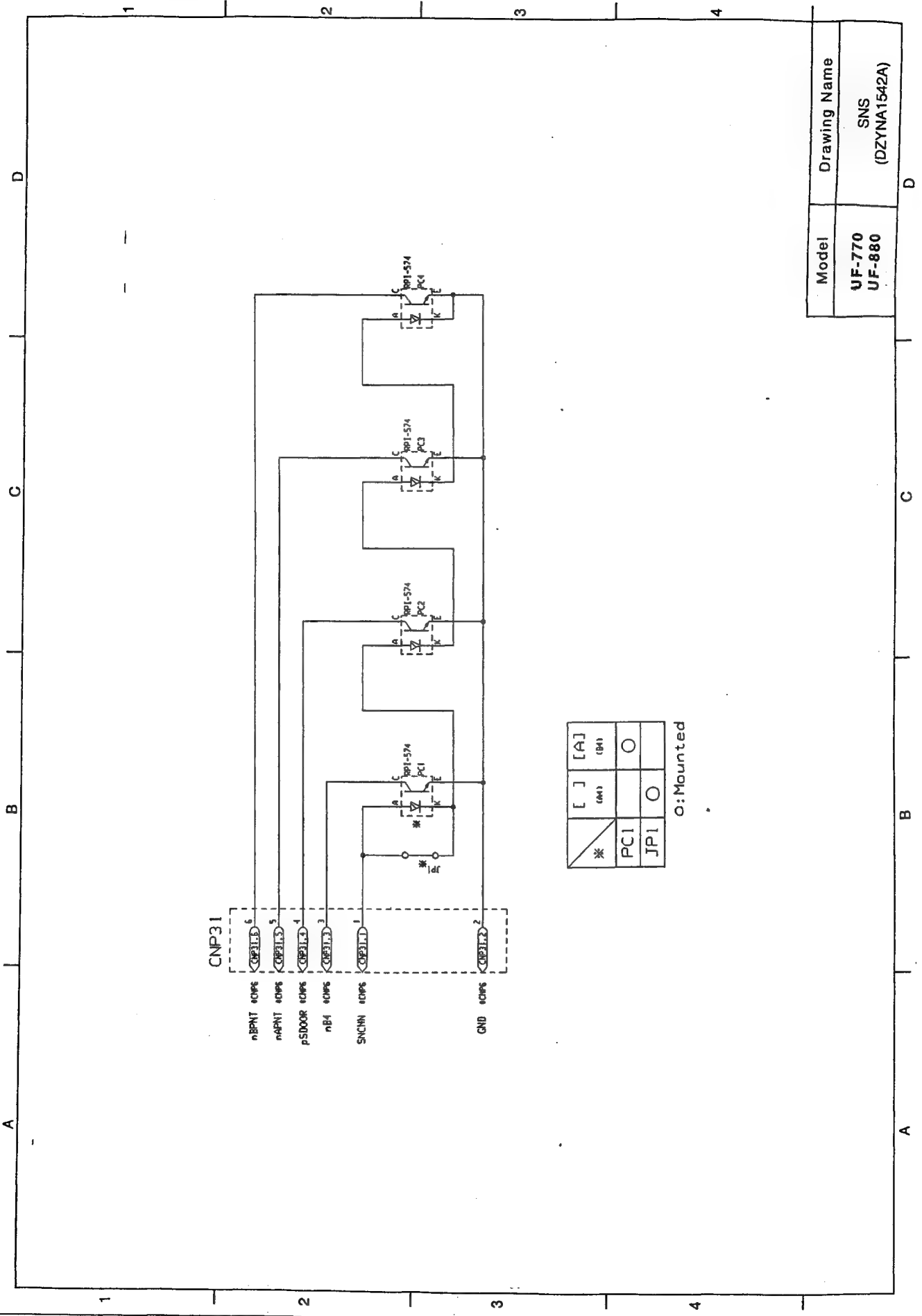






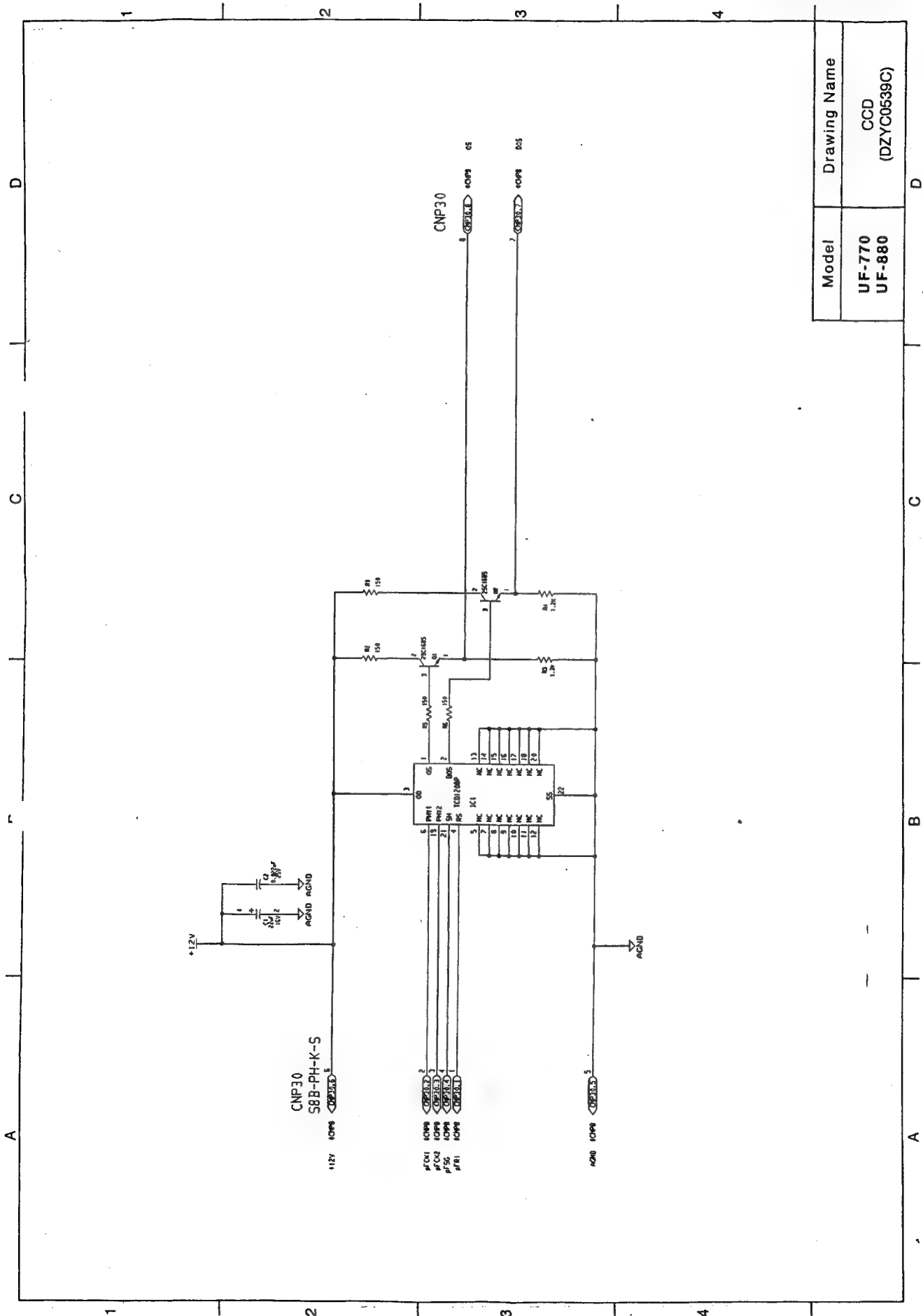
Model	Drawing Name
UF-770	CCD
UF-880	(DZYC0539C)

Model	Drawing Name
UF-770	CCD
UF-880	(DZYC0539C)



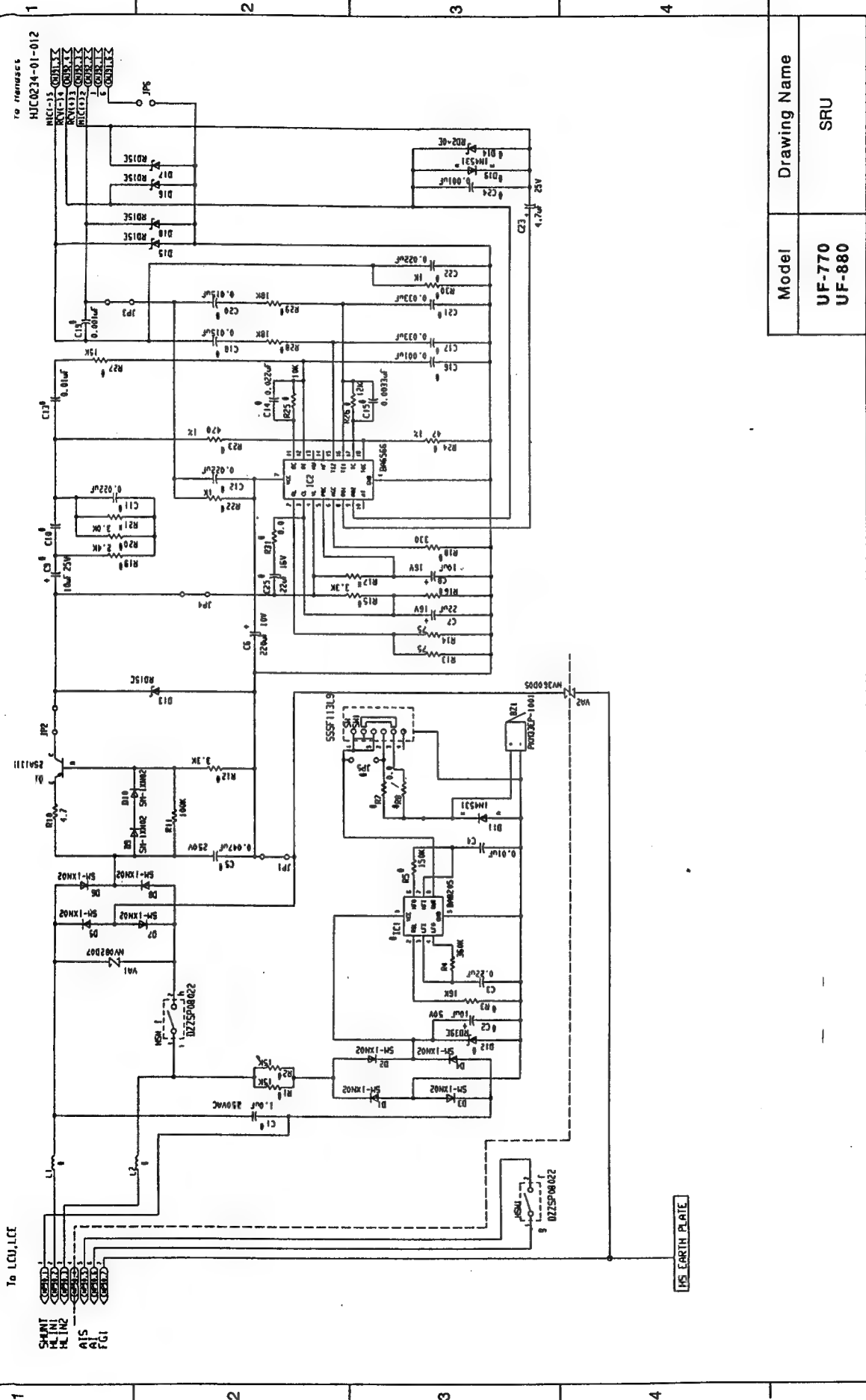
Model	Drawing Name
UF-770 UF-880	SNS (DZYNA1542A)

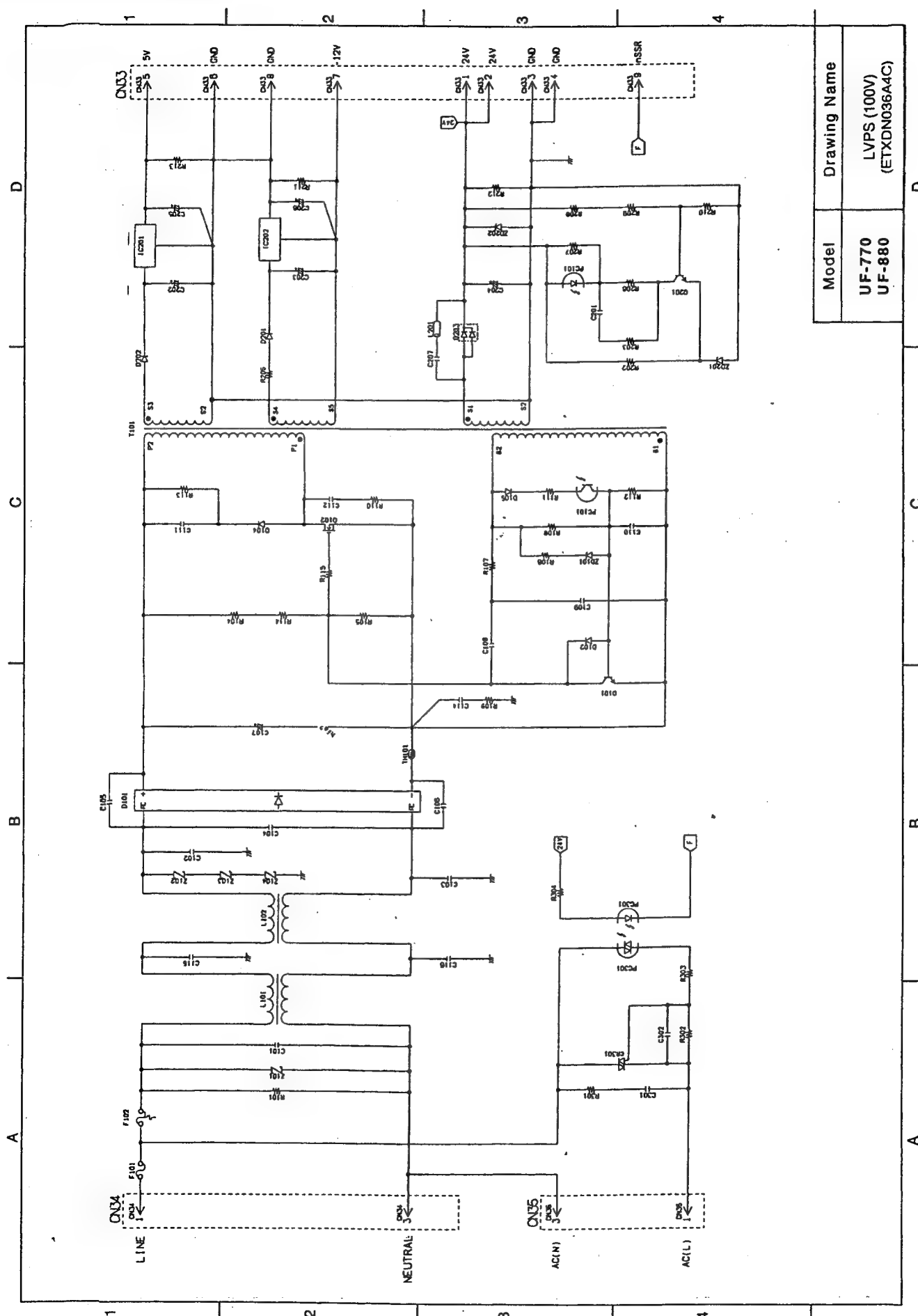
# Schematic Diagram



Model	Drawing Name
UF-770	CCD
UF-880	(DZYC0539C)

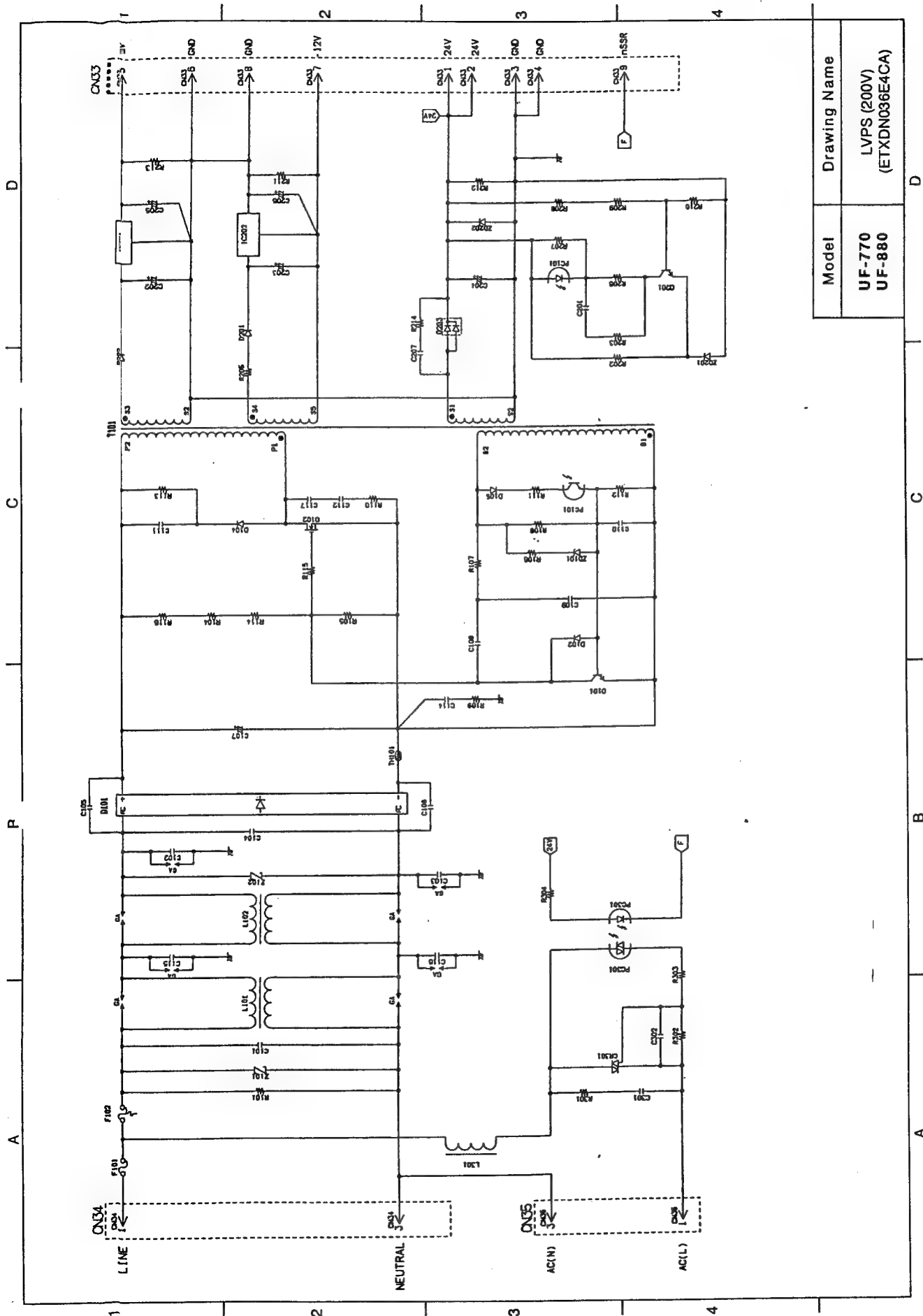
# Schematic Diagram







# Schematic Diagram



Model	Drawing Name
UF-770 UF-880	LVPS (200V) (ETXDN036E4CA)

**Notes**

ORDER NO. MGCS970301S0

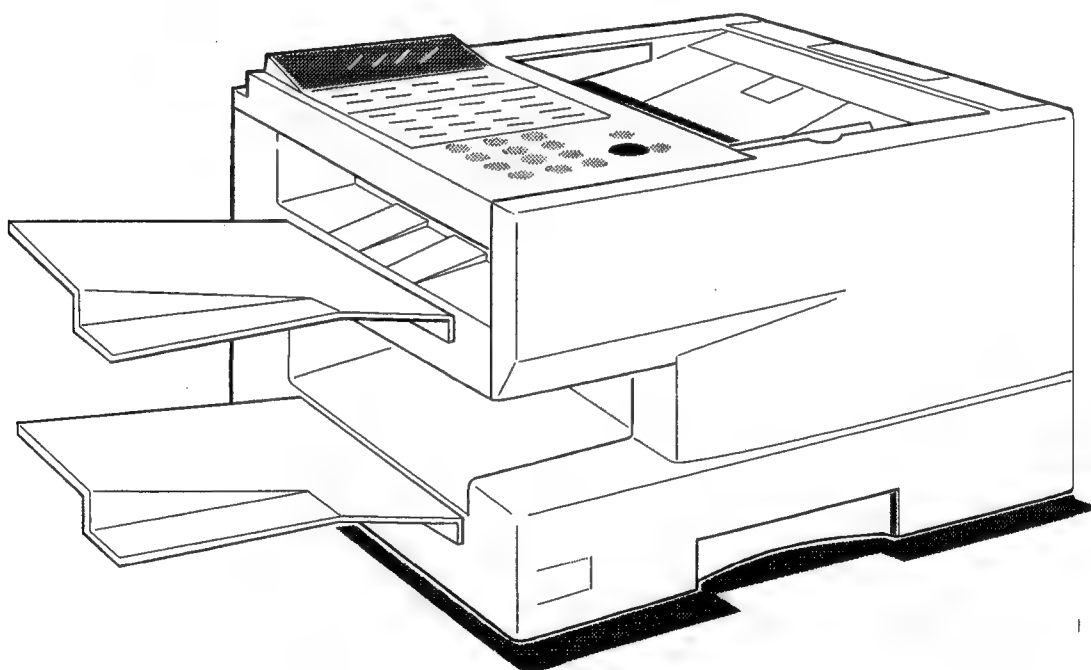
# Service Manual

**Supplement**

Facsimile

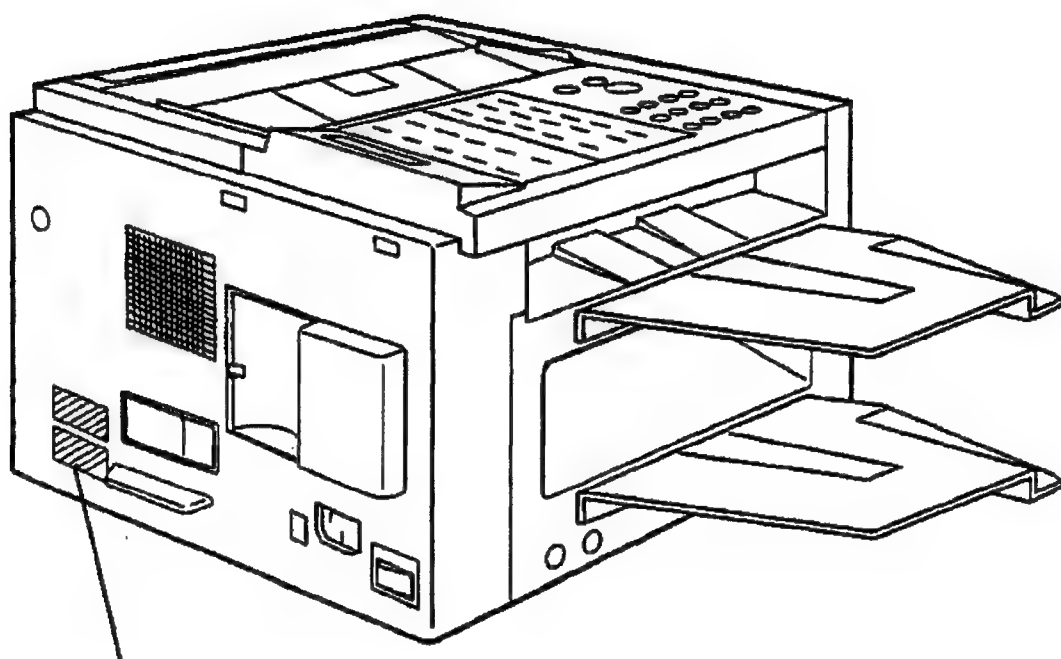
**UF-550/770/880**

Please file and use this supplement manual with the UF-550 or UF-770/880 Service Manual, Order No. MGCS960601C1 or MGCS970102C0

**Panasonic®**

# WARNING

This service literature is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service literature by anyone else could result in serious injury or death.



**Model and Serial Number**

## **Chapter 11**

### **Enhancements**

## 11.1 Test Mode 12 (LBP Service Mode)

This test mode is used to change printer parameter settings, the printer information & the Check and Call Mode.

Sub-Code	Parameter Name	Description
1	1	Not used
	2	Not used
	3	Not used
	4	Not used
	5	Printer Counter Displays and resets the printer counter
	6	LBP Fuser Reset Clears the LBP fuser error
	7	Out of Toner Sets the number of pages to print after low toner is detected
2	1	LBP ID No. Identifies the unit's LBP ID No.
	2	LBP ROM Version Displays the LBP's ROM Version
	3	LBP Print Available Shows the remaining number of allowable printable pages after low toner has been detected ( <u>Counter Only</u> )
3	1	<b>SERVICE ALERT TEL #</b> <b>Entering a destination telephone number of the Service Alert Report. Max. 36 digits (i.e. 201 111 2222)</b>
	2	<b>MAINT. ALERT TEL #</b> <b>Entering a destination telephone number of the Maintenance Alert Report. Max. 36 digits (i.e. 201 111 3333)</b>
	3	<b>CUSTOMER ID</b> <b>Entering a Customer ID code of the Report. Max. 16 characters (i.e. PANASONIC #0001)</b>
	4	PRINTER REPORT Prints the Printer Report

**Note:** Items in **Bold** indicate enhancements added to the Test Mode No. 12.

Use the following procedure to change printer parameter.

Step	Operation or Unit Condition	LCD Display
1	Standby	12- JAN -1997 15:00 00%
2	Press "FUNCTION" and then "7"	SET MODE (1-6) ENTER NO. OR V ^
3	Press "MONITOR" four times, then press "*"	TEST MODE NO.= (ENTER 0-12)
4	Press "12" and "START"	LBP SERVICE MODE: ■ 1:PARAM 2:INFO 3:C&C
5	Enter "1" for setting printer parameter. Enter "2" for getting printer information. Enter "3" to go to Check & Call Mode EX: Enter "1" for setting printer parameter.	LBP PARAMATER SET ENTER NO. (1-7) #■
6	Enter "7". Then enter the number of pages.. EX: Enter "100" and "START".	OUT OF TONER : 100 ENTER 001-254 (pages)
7	Repeat Step 5 through 6 to require operation, or press "STOP" to return to standby.	12- JAN -1997 15:00 00%

### 11.1.1 Overview

This feature enables the Authorized Servicing Dealers to manage and improve the fax machine maintenance to their customers by alerting them of equipment problems. It also can be used as a Supply Sales Tool by alerting the Dealer that the unit is running Low on Toner. The function overview is as follows:

- 1) The machine's printer error information is stored in the Printer Report.
- 2) The printer report can be manually printed when required.
- 3) When printer errors occurs, the unit can automatically transmit the Service Alert Report to the pre-registered telephone number.
- 4) When the unit detects Low Toner, it can automatically transmit the Maintenance Alert Report to the pre-registered telephone number.

### 11.1.2 Printer Reports

#### • Conditions under which a report can be printed or transmitted

- 1) Manual print  
The Printer Report can be printed by Test Mode 12. Refer to "11.1.3. SETTING OPERATION".
- 2) Automatic transmission
  - a) Maintenance Alert Report  
When the unit detects Low Toner, the unit can automatically transmit the Maintenance Alert Report to the pre-registered telephone number. Refer to the Printer Error Code Table below.
  - b) Service Alert Report  
When the unit detects an Emergency Printer Error, the unit will immediately transmit the Service Alert Report to the pre-registered telephone number. However, the unit will not transmit the Service Alert Report if it finds the same error within the same date in the Error Log.

The Service Alert and Maintenance Alert Reports are managed in the same manner as the normal memory transmission (Retry, Incomplete, File List, Display while it is transmitting, Journal).

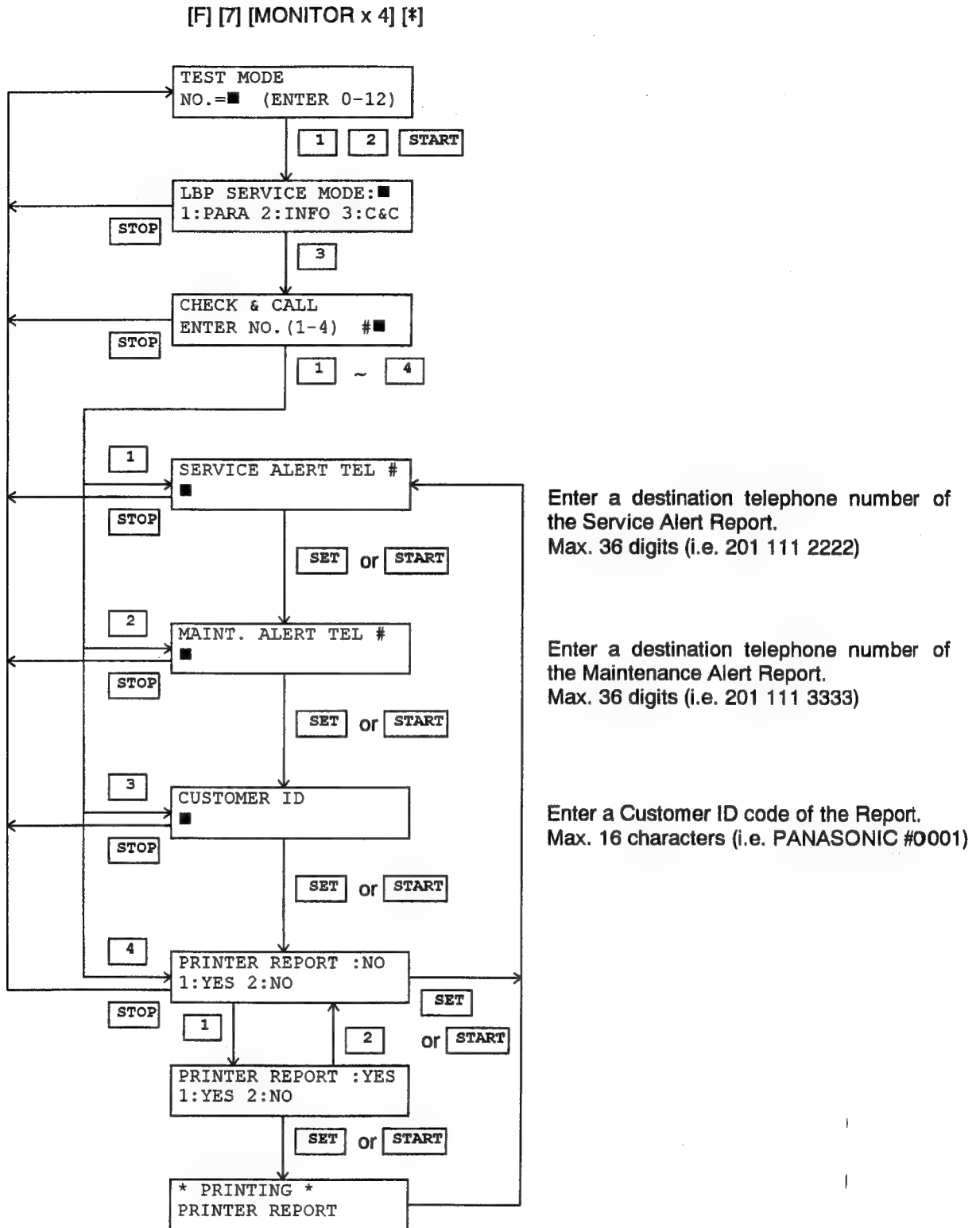
#### • Printer Error Code Table

Info. Code	Printer Error Code	LED/ LCD	Log only	Tx Report	Condition	Content of Error
001	11 -13	JAM	○		R/C	Paper Jam 1st, 2nd or 3rd Cassette
002	14 -1B	JAM	○		R/C	Paper Exit Error
010	00	NO PAPER			R/C	No Paper in 1st, 2nd or 3rd Cassette, or wrong Paper Guide Setting
011	64, 65	CHECK CASSETTE			S	No 1st, 2nd or 3rd Cassette, or No Paper in 1st, 2nd or 3rd Cassette
021	22 -26 41		○	○	R/C	Fuser Problem / Fan Problem / LP Thermistor disconnected Problem
041	00	TONER	○		S/R/C	No Toner
043	00	TONER	○	●	S/R/C	Low Toner Warning
045	61	TONER	○		S	No Toner Cartridge
051	00		○	○	S/R/C	Printer Error
054	31, 32 36		○	○	R/C	LSU Problem
055	54, 55, 00		○	○	S/R/C	No response from LP Controller
058	00		○	○	R/C	Interface error occurs with the 500-sheet Optional Cassette Feeder.
060	63					Rx Door Open
870		MEMORY OVERFLOW			T/R	Memory Overflow detected

**Note:** 1. Transmission Report: ○ = Service Alert Report, ● = Maintenance Alert Report

2. Condition: R = Receive Mode, C = Copy Mode, S = Standby Mode, T = Transmit Mode

## 11.1.3. Setting Operation



**Note:** To enable the automatic transmission of Service Alert and Maintenance Alert Reports, enter the destination fax telephone numbers in the "SERVICE ALERT TEL #" and "MAINT. ALERT TEL #" fields. A blank entry in these fields, disables the automatic transmission of the Service Alert or Maintenance Alert Reports. SERVICE ALERT TEL #, this would be the fax telephone number for the Dealer's Service Department. MAINT. ALERT TEL #, this could be the fax telephone number for the Dealer's Supply Sales Desk. CUSTOMER ID, to identify your customer, enter a 16 characters alphanumeric user code in this field.



## 11.1.4. Service Alert Report Format

\*\*\*\*\* -PRINTER REPORT- \*\*\*\*\* DATE 15- JAN -1997 \*\*\*\*\* TIME 12:14 \*\*\*\*\*

\*\*\*\*\*  
> SERVICE ALERT REPORT <  
\*\*\*\*\*

(1) (2) (3)  
LAST PRINT ERROR : 15- JAN -97 12:10 No.999-00

CUSTOMER ID : PANASONIC #0001 (4)

FAX ROM VERSION : UF-xxx (NAM) V0.09 (5)

LBP ROM VERSION : 00.10 (6)

TX COUNTER : 999999 (7)

RX COUNTER : 999999

PRT COUNTER : 999999

(1) (2) (3)  
PRINT ERROR : 1. 15- JAN -97 12:10 No.999-00 (8)  
2. 09- NOV -96 10:15 No.999-00  
3. 08- NOV -96 13:48 No.999-00  
4. "  
5. "  
6. "  
7. "  
8. "  
9. "  
10. "  
11. "  
12. "  
13. "  
14. "  
15. "  
16. "  
17. "  
18. "  
19. "  
20. "  
21. "  
22. "  
23. "  
24. "  
25. "  
26. "  
27. "  
28. 27- OCT -96 17:10 No.999-00  
29. 15- SEP -96 12:10 No.999-00  
30. 19- SEP -96 08:10 No.999-00

-PANASONIC -

\*\*\*\*\* -PANAFAX UF-xxx - \*\*\*\*\* - 201 555 1234- \*\*\*\*\*

## Explanation of Contents

- (1) Date & Time that a problem occurred
- (2) Information Code:
- (3) Printer Error Code:
- (4) Customer ID:
- (5) Fax ROM Version
- (6) LBP ROM Version
- (7) Transmission / Reception / Print Counters
- (8) Print Error:

Refer to the Service Manual, Section 4.7  
Refer to the Service Manual, Section 11.1.7  
Up to 16 characters (User Identification Code)

Latest 30 records (from the top latest to oldest)

## 11.1.5. Maintenance Alert Report Format

```
***** -PRINTER REPORT- ***** DATE 15- JAN -1997 ***** TIME 12:14 *****

*****
> MAINTENANCE ALERT REPORT <
*****

LAST PRINT ERROR : MACHINE IS RUNNING OUT OF TONER (1)

CUSTOMER ID      : PANASONIC #0001 (4)

FAX ROM VERSION  : UF-xxx (NAM)V0.09 (5)
LBP ROM VERSION  : 00.10 (6)

TX COUNTER       : 999999 (7)
RX COUNTER       : 999999
PRT COUNTER      : 999999

                                -PANASONIC -

***** -PANAFAX UF-xxx - ***** - 201 555 1234- *****
```

### Explanation of Contents

- (1) Low Toner Message (Fixed)
- (4) Customer ID:
- (5) Fax ROM Version
- (6) LBP ROM Version
- (7) Transmission / Reception / Print Counters

"MACHINE IS RUNNING OUT OF TONER"  
Up to 16 characters (User Identification Code)

## 11.1.6. Printer Report Format

```

***** -PRINTER REPORT- ***** DATE 15- JAN -1997 ***** TIME 12:14 *****

                                (1)      (2) (3)
LAST PRINT ERROR : 15- JAN -97 12:10 No.999-00

CUSTOMER ID      : PANASONIC #0001 (4)

FAX ROM VERSION  : UF-xxx (NAM)V0.09 (5)
LBP ROM VERSION  : 00.10 (6)

TX COUNTER       : 999999 (7)
RX COUNTER       : 999999
PRT COUNTER      : 999999

                                (1)      (2) (3)
PRINT ERROR      : 1.  15- JAN -97 12:10 No.999-00 (8)
                  2.  09- NOV -96 10:15 No.999-00
                  3.  08- NOV -96 13:48 No.999-00
                  4.      "
                  5.      "
                  6.      "
                  7.      "
                  8.      "
                  9.      "
                 10.      "
                 11.      "
                 12.      "
                 13.      "
                 14.      "
                 15.      "
                 16.      "
                 17.      "
                 18.      "
                 19.      "
                 20.      "
                 21.      "
                 22.      "
                 23.      "
                 24.      "
                 25.      "
                 26.      "
                 27.      "
                 28.  27- OCT -96 17:10 No.999-00
                 29.  15- SEP -96 12:10 No.999-00
                 30.  19- SEP -96 08:10 No.999-00

                                -PANASONIC -

***** -PANAFAX UF-xxx - ***** - 201 555 1234- *****

```

**Explanation of Contents**

- (1) Date & Time that a problem occurred
- (2) Information Code:
- (3) Printer Error Code:
- (4) Customer ID:
- (5) Fax ROM Version
- (6) LBP ROM Version
- (7) Transmission / Reception / Print Counters
- (8) Print Error:

Refer to the Service Manual, Section 4.7  
Refer to the Service Manual, Section 11.1.7  
Up to 16 characters (User Identification Code)

Latest 30 records (from the top latest to oldest)

## 11.1.7 Printer Error Code Table

Error Code	Description of Problems	Cause
00	No problem detected	
10	The Registration Sensor turned OFF before a certain period of time.	1. Recording paper jam. 2. Timing Sensor defective.
11	Timing Sensor did not turn ON within a certain period of time. (Standard Cassette Feeder)	1. Recording paper mis-feeding, Paper Feed Roller defective. 2. Drive Clutch defective. 3. Timing Sensor defective.
12	Timing Sensor did not turn ON within a certain period of time. (250-sheet Optional Cassette Feeder)	1. Recording paper mis-feeding, Paper Feed Roller defective. 2. Drive Clutch defective. 3. Timing Sensor defective.
13	Timing Sensor did not turn ON within a certain period of time. (500-sheet Optional Cassette Feeder)	1. Recording paper mis-feeding, Paper Feed Roller defective. 2. Drive Clutch defective. 3. Timing Sensor defective.
14	Timing Sensor did not turn OFF within a certain period of time.	1. Recording paper jam. 2. Timing Sensor defective.
15	Paper Eject Sensor did not turn ON within a certain period of time.	1. Recording paper jam. 2. Paper Eject Sensor defective.
16	Paper Eject Sensor did not turn OFF within a certain period of time.	1. Recording paper jam. 2. Paper Eject Sensor defective.
17	Timing Sensor detected paper while initializing the unit.	1. Recording paper jammed in the unit. 2. Timing Sensor defective.
18	Paper Eject Sensor detected paper while initializing the unit.	1. Recording paper jammed in the unit. 2. Paper Eject Sensor defective.
1B	Paper Cassette slid out while Recording Paper is Feeding.	1. Recording Paper Jam.
22	The temperature of the Fuser Roller remained low even after circuit was activated.	1. Fuser Unit defective. 2. FCB PCB defective. 3. LVPS PCB defective.
23	Abnormally high Fuser Roller temperature after the circuit was de-activated.	1. Fuser Unit defective. 2. FCB PCB defective. 3. LVPS PCB defective.
24	The temperature of the Fuser Roller was not controlled within a certain margin.	1. Fuser Unit defective. 2. FCB PCB defective. 3. LVPS PCB defective.
25	Thermistor open.	1. Thermistor defective (Fuser Unit). 2. FCB PCB defective.
26	Thermistor detected temperature over 200 °C.	1. Thermistor defective (Fuser Unit). 2. FCB PCB defective. 3. LVPS PCB defective.
31	The Polygon Motor did not reach a constant speed of 5,000 rpm within a certain period of time.	1. LSU defective.
32	The Polygon Motor did not maintain a constant speed of 5,000 rpm.	1. LSU defective.
36	HSYNC signal abnormal.	1. LSU defective. 2. FCB PCB defective.
41	Fan does not rotate.	1. Fan defective. 2. FCB PCB defective.
54	A/D Converter error.	1. FCB PCB defective.
61	Unit detected "No Toner Cartridge".	1. Toner Cartridge is not installed. 2. Toner Sensor defective.
63	Unit detected "Printer Door Open".	1. Printer door is not closed. 2. ILS PCB defective.
64	Unit detected "No Cassette".	1. Cassette not installed or partially open. 2. Cassette Sensor defective.
65	Unit detected "Out of Paper".	1. Cassette(s) ran out of receiving paper. 2. Paper Detect Sensor defective.

Error Code	Description of Problems	Cause
68	Jam Access Cover Sensor of the 250-sheet Cassette is opened.	1. Jam Access Cover Sensor of the 250-sheet Optional Cassette Feeder is defective.
69	Jam Access cover sensor of 500-sheet Cassette opened.	1. Jam Access Cover Sensor of the 500-sheet Optional Cassette Feeder is defective.
71	Interface error occurs with the 500-sheet Cassette.	1. CN101 or 126 is disconnect. 2. CST3 PCB defective.

**Note:** If an 021 series Error Code occurs, 021-25 (Thermistor Open) or 021-26 (Thermistor detected temperature over 200°C), a pre-programmed recovery safety software is activated to protect the unit and the service personnel during abnormal increase in temperature.

Once activated, this program is downloaded into the FCB PC Board's S-RAM, disabling the Fuser Lamp and preventing it from turning ON again.

In order to reset this circuit, please follow the procedure below:

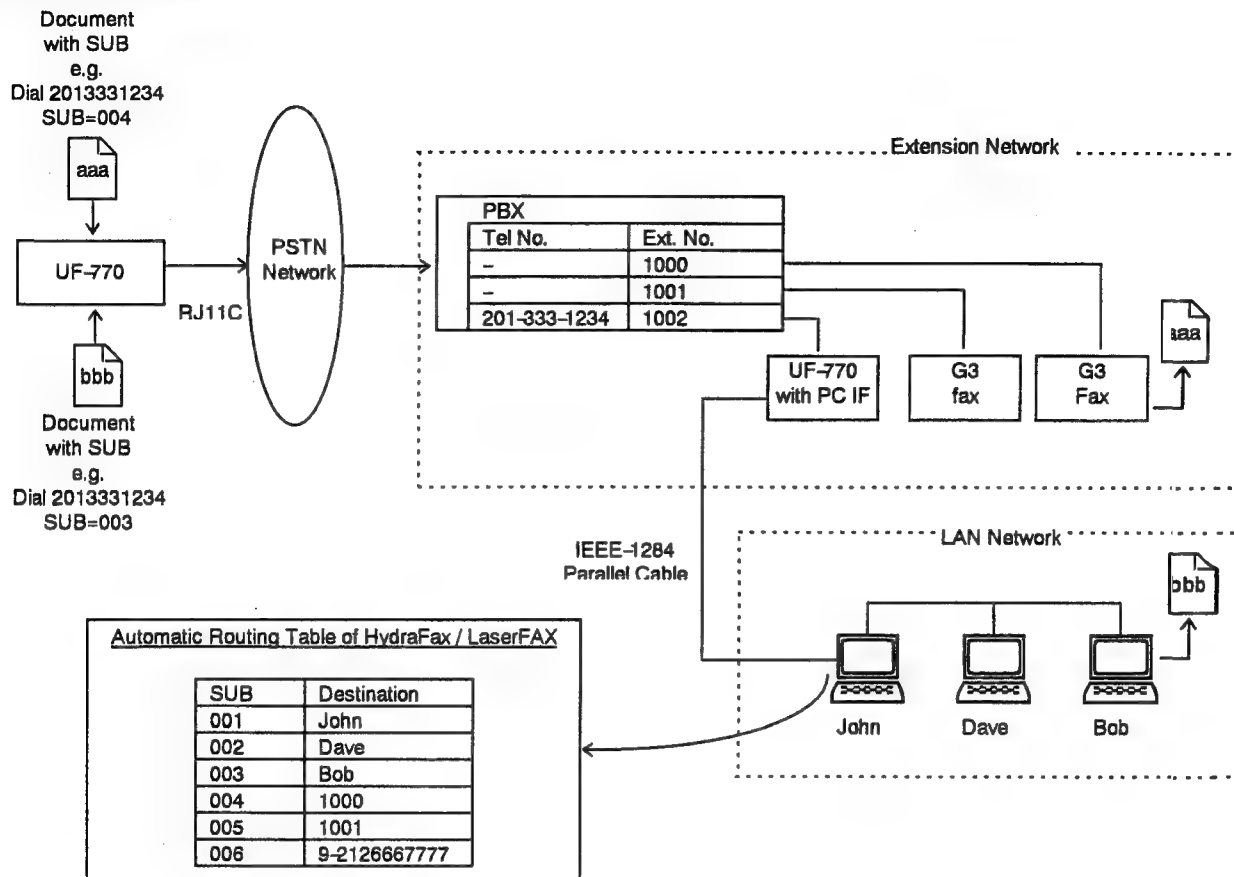
- 1) Reset the LBP Memory by using Test Mode 12-1-6 (Section 11.1) and then reset the Power OFF/ON.
- 2) Replace the Thermistor or Fuser Unit. If the problem persists.
- 3) Replace the FCB PCB.

## 11.2 Sub-addressing (PC Interface Option)

### 11.2.1 General Description

The Sub-addressing function allows you further routing, forwarding or relaying of document(s) to the desired recipient(s) when used in combination with the Networking version of HydraFax™/LaserFAX™ software. This function conforms to the ITU-TS recommendation for T. Routing-Facsimile Routing utilizing the Sub-address.

#### Example of a Network



#### Compatibility with Other Machines

- Sub-addressing Transmission: UF-342 / 550 / 770 / 788 / 880 (see Note 2)
- Sub-addressing Reception: UF-342 / 550 / 770 / 788 / 880 with PC Interface Option using the Networking version of HydraFax™ / LaserFAX™ software.

#### Sub-addressing Transmission Methods

You can send a document with Sub-address information to the desired recipient by the following methods.

- By registering the Sub-address information into One-Touch/ABBR. Dialing Numbers
- By specifying the Sub-address information in the Manual Number Dialing Mode.

#### Setting of Routing, Forwarding or Relaying

You can customize the Automatic Routing to any combination of LAN (Local Area Network), PSTN (Public Switched Telephone Network) or PBX Extension with HydraFax / LaserFAX Routing Table (please refer to the HydraFax/LaserFAX User Manual).



- Note:**
1. HydraFax and LaserFAX are trademarks of Wordcraft Systems, Inc. and Wordcraft International Ltd. respectively.
  2. UF-788 with PC Interface Option or the Option ROM installed.

## 11.2.2 To set the Sub-address into a One-Touch/ABBR. Dialing Numbers

1    **FUNCTION**   **7**   **2**   **SET**

1: ONE-TOUCH  
2: ABBR. NO.

2    Select 1 for One-Touch Dialing Number  
     Select 2 for ABBR. Dialing Number

Ex: **1**

ONE-TOUCH< >  
PRESS ONE-TCH OR V A

3    **01**

<01>  
ENTER TEL. NO.

4    Enter the telephone number, press the FLASH key then enter the  
     Sub-address (up to 20 digits).  
     (up to 36 digits including telephone number, pauses, spaces,  
     FLASH and Sub-address)

Ex: Telephone number = 5551234, Sub-address = 2762

Enter as: 5551234   **FLASH**   2762

<01>  
5551234s2762■

5    **SET**  
     Enter the station name

<01> SALES DEPT■  
5551234s2762

6    **SET**   **STOP**

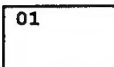
**!** **Note:** SUB-ADDR/FLASH key separates the Sub-address from the Telephone number and is indicated by an "s" in the display.


## 11.2.3 To send a Document with Sub-address

- **Using One-Touch/ABBR. Number Dialing**

The operation is the same as for normal dialing

1  Set document(s) face down

2 

3 

ENTER STATION(S)  
THEN PRESS START 00%


<01> (Station name)  
5551234s2762

\* STORE \* NO.001  
PAGES=01 01%

The document is stored into memory and your machine starts to dial the number of the station and sends the document(s) with Sub-addressing information.

- **Using Manual Number Dialing**

Use the Flash key to separate the Telephone number and the Sub-address.

1  Set document(s) face down.

2 Enter the telephone number, press the FLASH key then enter the Sub-address (up to 20 digits).  
(up to 36 digits including telephone number, pauses, spaces, FLASH and Sub-address)

Ex: Telephone number = 5551234, Sub-address = 2762

Enter as: 5551234  2762

3 

ENTER STATION(S)  
THEN PRESS START 00%

TEL. NO.  
5551234s2762■

\* STORE \* NO.001  
PAGES=01 01%

The document is stored into memory and your machine starts to dial the number of the station and sends the document(s) with sub-addressing information.

- !** **Note:** 1. The SUB-ADDR/FLASH key separates the Sub-address from the Telephone number and is indicated by an "s" in the display.  
2. Manual Off-Hook or On-Hook Dialing cannot be used with the Sub-addressing Transmission.  
3. The Sub-address is not transmitted during Manual Redial Mode.



## 11.3 Additional Information Codes

### 11.3.1 Additional Information Codes

Code	Mode	Phase	Description of Problem	Cause
580	XMT	B	Sub-address transmission to a unit that has their DIS frame, bit-49 (NSF frame bit-155) set "Off".	A Sub-address transmission was initiated to a unit that does not support Sub-address function.
581	XMT	B	Sub-address with Password transmission to a unit that has their DIS frame, bit-50 (NSF frame, bit-156) set "Off".	A Sub-address transmission was initiated to a unit that does not support Sub-address function.

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